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ABSTRACT

This volume contains 27 edited papers, and abstracts of 14 papers, presented during the 1981 convention of the Canadian Association for Health, Physical Education and Recreation. Subjects discussed are listed in 10 categories: (1) working together for quality programs; (2) challenges facing the physical education teacher; (3) skill development and decision making in team sports; (4) history: developing a sport history program; (5) athletics: (arguments against athletic scholarships, the sociology of university athletic awards, competitive physical activity, girl's high school basketball programs); (6) dance for boys, the aesthetic in sport and dance; (7) administration (the budgetary process, comparative Canadian-American research grantmanship and legal responsibility, professional development for physical education teachers); (8) health (venereal disease, the health educator as a role model, maturational assessment of female gymnasts, observation as a teaching behavior, effective teaching, individualized instruction in the secondary school, the problem-solving approach for teachers of gymnastics, teaching rugby in secondary schools, mini-field hockey); (9) adaptive instruction (biomechanical analysis of the high jump of an amputee, program effects on behavior of mentally retarded children); and (10) juggling. The abstracts are brief reports of research studies and innovative programs. (JD)

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CANADIAN ASSOCIATION
FOR HEALTH, PHYSICAL EDUCATION
AND RECREATION

1981 CONVENTION PAPERS

# Quality Programming In H.P.E.R.

## *Volume II*

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*Physical Education Series*

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# Quality Programming in H.P.E.R.

## Volume II

*Selected papers presented at the Convention of the Canadian Association for Health, Physical Education and Recreation held at the University of Victoria, British Columbia, Canada June 10-13, 1981*

*Convention Steering Committee*

Robert D. Bell, Maureen C. Hibberson, Monty Holding, John J. Jackson (Chairman), Fred L. Martens, R. Anne McLaughlin, H. David Turkington, Geraldine H. Van Gyn, Wayne Van Osterhout

*Editors*

John J. Jackson and H. David Turkington

UNIVERSITY OF VICTORIA
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## PREFACE

The 1981 Convention of the Canadian Association for Health, Physical Education, and Recreation was unique in that it also included the Bi-National Elementary Physical Education Conference (U.S.A.-Canada) and the annual British Columbia Physical Education Conference.

This volume contains selected papers and abstracts which were presented during the Convention and supplements the initial publication, under the same title, which was published in March 1981. The chapters are sometimes abridged versions of what was verbally presented and, also, do not necessarily represent the views of CAHPER, The University of Victoria, or ourselves. Nevertheless, stimulating ideas are presented which illuminate the wide diversity of our field and suggest quality programming needs to be an important consideration.

John J. Jackson and H. David Turkington
*University of Victoria*
July 1981

CHAPTER 1

# WORKING TOGETHER FOR QUALITY PROGRAMS

AUDREY BAYLES

It is a distinct personal honour but a humbling experience to be President Bob's choice as the R. Tait McKenzie speaker at this convention—the second CAHPER Convention to be held in Victoria and the fourth held in British Columbia. I should like to take the next few minutes to talk about working together to develop and implement quality programs and identify some of our partners in the task.

First, let us look at CAHPER through the rear view mirror—like later model cars that have side mirrors with printing on them stating "objects in mirror are closer than they appear," CAHPER's past will be closer and clearer for us all with the publishing of the *CAHPER Story* being prepared by Helen Gurney for the 50th Anniversary of our association in 1983. These events may be distant in time, but they remain relevant today.

Here we see CAHPER's founding and early members aspiring to achieve goals similar to those we are working for today. These members *worked together* as individuals to establish standards of achievement in physical activity. They sought to recognize the needs of the profession. They had problems of communicating and of meeting due to the vastness of our country, but they worked together to find ways of sharing their work and bettering their programs.

We see early members of CAHPER aspiring to foster and promote personal well being and a healthy lifestyle. In the early 1960's, there was a formal link with CAHPER and the Canadian Medical Association which led to the formation of the Canadian Association of Sport Sciences. As the profession grew, special groups like this developed and they felt they would be better served by leaving the nest and venturing on their own.

There was a second CAHPER-CMA sub-committee which met in the 1960's to lobby for the Mill of Kintail, McKenzie's home near

Almonte, Ontario, to be developed as a base for spreading his ideals. At this time, major thrusts of CAHPER included the first Canadian fitness-Performance Test and the first Physical Work Capacity Test. We see the early members of CAHPER closely allied to recreation interests—YM-YWCA's, camping, outdoor education. The Fitness Act of 1943 and the Fitness and Amateur Sport Act of 1960-61 came into being through major input of many CAHPER members working together with Government. CAHPER had, and continues to have, an important role to play in sharing quality programs. Conferences like this held every two years until 1973 and annually since that time, have played an important part in helping this sharing to occur throughout Canada and now with the United States and indeed, internationally.

The R. Tait McKenzie Memorial Address is to honour a Canadian who gained world-wide recognition in four professions—as a surgeon and anatomist, as a physical educator, as a specialist in rehabilitation, and as a sculptor and artist. Robert Tait McKenzie was a determined idealist who worked mightily for the realization of his ideals and goals. In the introduction to the memorial tribute to the late Dr. C. R. "Blackie" Blackstock, Dr. Stewart Davidson mentions McKenzie's life as an ardent search for the beautiful, the perfect, the ideal. McKenzie's work is a model which is appropriate for this convention theme, Quality Programs. McKenzie's work inspired and led others to help in work in rehabilitative medicine. In his time and in his way he sought quality and by example he shared. Dr. McKenzie maintained that physical educators have a mission in life to teach their students to preserve their health and physical efficiency, to learn certain muscular skills and to observe modesty and integrity in the social relationships of competitive games. He believed that physical educators should use exercise as a means of keeping human beings well rather than attempting to "cure and patch them up after they become ill."

Dr. McKenzie was born in 1867 as Canada began its nationhood and he lived and worked in Europe, the United States, and Canada until his death in 1938. His philosophy is ageless—his belief in physical activity and exercise as a means of keeping people well has returned to public consciousness today with the much talked about wholistic health, wellness, lifestyle, healthful living concepts, preventive medicine, family health, general health, positive health, total fitness, personal well-being, and active health—all terms popular today. As a scholar, a teacher, and a practitioner, Dr. McKenzie inspired others to excellence. His history is our heritage as we concern

ourselves with wholeness. We must strive to reaffirm the philosophy he espoused.

Society has become accustomed to a quality that far surpasses what individuals received in past decades. We have more knowledge, better research, wider experiences, sophisticated high technology communications—with a radio, television, computer, satellite potential that is already here, but society is not yet ready to accept. Whatever the ultimate in quality will be, one thing is certain, we cannot achieve it individually on our own.

As we prepare to have CAHPER enter its second half century in 1983 and then the 21st century, let us recognize the growth of the profession—the increased knowledge, the increased number of graduates and postgraduates, the expanding needs of the profession and of Canadians. We are coming closer to knowing ourselves as an Association. By knowing who we are, we can define the common thread that holds us all together, become mature enough to know other groups and to have confidence to seek assistance, share our work and yes, realize we can be stronger by working together to create quality programs.

In a country and on a continent as large as ours, with communication and travel becoming easier but becoming more expensive, we can continue to have our individual projects often closely similar to several other individual projects, or we can find ways to work together. Each of us knows of examples of people recreating the wheel so to speak in the curriculum development era of the last few years. It is amazing to see the surprise on people's faces when they realize the similarity of their projects and of the results when individuals have the opportunity to share their efforts. Will we continue to recreate the wheel or will we strive to work together to adjust the wheel to make it more streamlined, more efficient, more effective—of a higher quality?

Working together has been a recurring theme of this address at CAHPER Conferences. Delegates have heard Rae Speirs in 1959 tell us of the need for a common focus, W. L'Heureux in 1965 alerting us to a gap that was developing, Earle Zeigler in 1974 telling us of the need for co-operation in international relations, Patricia Lawson reaffirming that Teamwork Builds Bridges in 1975, and Helen Gurney in 1977, urging us to work together as professionals.

There is new interest in re-establishing the CAHPER-CMA subcommittee to work toward creating a Fitness Shrine in the McKenzie tradition. In an article published in a CMA Journal, June 25, 1960, Major Leys spoke of a Physical Fitness Shrine in Canada. A large

number of fitness centres have developed over the 21 years since that article was published. Major Leys mentions that "Tait McKenzie continued to help youth find itself—the epitome of service to the community. By his own active life, he gave proof that the athlete can be a scientist, the scientist an artist, and the artist an athlete. He brought technical and cultural honour to the profession of physical education, health and vigour to the artists and to the medical profession, an example of devotion to the cause of physical medicine." It seems appropriate that CAHPER and the CMA who both hold McKenzie as a model, who both work to help people achieve good health and maintain a healthy lifestyle, would work together to make this happen. Hopefully the sight would have an extensive library. It would be a site where individuals, parents, and families could learn the story of individual fitness and be touched by the idealism of Robert Tait McKenzie. It would be a site where professionals, individuals and groups, both national and international, could work together to develop quality programs on the one hand and share their programs as well.

With an opportunity at hand, with individuals and associations aspiring to the McKenzie ideals, we can, but will we work together to make it happen? We know there is a need. We can, but will we work with Norm West and his Board to find a structure to facilitate all groups—regional, provincial/territorial, national, international—to work together, for quality? We must define the common thread that holds us all together.

With the reversal in the make up of society from an abundance of youth to an abundance of older people, and the serious inflation and monetary difficulties we face, we have to come to the realization that we all need each other—the historian, the person dealing with adapted programs, the classroom teacher, fitness exercise specialist, the dance enthusiast...

Should we now turn our back on a half century of spawning professional interest groups and have them go it alone without retaining a clear working link? Should we not find a way to co-ordinate our professional efforts to work together to develop quality programs? The opportunities are present today. We can but are we willing to work together to streamline the wheel, to create the "Hi Tech" quality physical education programs expected and required by the 21st-century clientele we are about to serve. Then, as a result of our shared values and mutual understandings, the expectations of our profession and programs can be realistic—worthy of the past and appropriate to the future.

CHAPTER 2

# THE NEW WORLD REQUIRES NEW RULES FOR THE GAME OF LIFE

THE HONORABLE IONA V. CAMPAGNOLO

You are a formidible audience, even at 9 a.m. According to my master-kinesiologist friend at Simon Fraser University, we are even though, since on hearing that I had been invited to speak once again to CAHPER, he volunteered that you must be masochists to want to hear me. But then he's known to be very reticent in speaking his mind. Let us agree that we are all formidible, or at least potentially so.

It is my hope this morning to delineate for you some of the indicators which fortell the shape of the radically changed world in which we live and how those changes affect the exercise our legitimate responsibilities as citizens within a specialized realm of service in health and physical education and the broader more inclusive world of sport. While I have always freely admitted that I have never seen the business end of an arena, playing field or stadium as either an athlete or direct administrator, I have been accorded a unique experience of Fitness and Sport in circumstances that proved both gruelling and intensive. I have kept my contacts with the sport world, as a member of the Board of Regents and Director of the B.C. Sport Hall of Fame, the Canadian Oldtimers' Hockey Association as well as the Calgary Olympic Development Association, for whom I have recently completed with Dr. Roger Jackson of Calgary University, an International Tour to present the particulars of the Calgary Bid for the 1988 Winter Olympic Games, to Members of the International Olympic Committee.

There is a strong sense of *deja vu* for me as I join with you this morning. I so well recall my much discussed speech to you, some four years ago in Wolfville, Nova Scotia. I was "your" Minister then, of course and it was my job as I saw it then to provoke you, as to be fair it was your job to provoke me, if we were to strike the sparks of dynamism from each other. We were good at our respective activities. I recall considering "softening" my words to you that long ago day, not

because I didn't think you could "take it," but because I was being "shadowed" by a Canadian magazine reporter, and I felt he might give undue publicity to what was basically an in-house exchange. Eventually as you who are old-timers will remember, I did "let fly," you rose to the occasion, and we parted, friends. Well, the world whirls on, times change, we change. As a defeated politician, I have not spoken on political themes for two years, out of respect for my employer, the Canadian Broadcasting Corporation. This regular citizen who addresses you today, is being "shadowed" by a writer for *Today Magazine*, and I wonder if the remarks I will make will contribute adequately to your theme of "Quality Programs," as I keynote your undertakings. Although we are located in a new time, on another of Canada's three great oceans, we must strive still for directness, since the world in which we pursue our reponsibilities grows more impatient by the day. It is time to create new rules, with which to play the game of life, if we, our organizations, communities, nations and indeed this suddenly "tiny" planet which we inhabit are to flourish or even to survive.

What Alvin Toffler describes in his hypothesis of the now-future, which he calls the Third Wave is a general de-massification of our institutions, as we move into the post-industrial, technological age. We see this vision of the future particularly clearly here, in our richly resourced and affluent North America. Every cherished or not so cherished institution is on the firing line as each takes on kaliedescopic variations which reflect the host of individual human expressions that were once content to adhere to rather rigid tradition. Whether it is the Church, splitting as if a cyclotron was performing the task, into microscopic variations all across the broadest political spectrum, as new cults and creeds, vie with new fundamentalist expression, and polarization even within the once staid traditional churches of scant two decades ago. Or, the new "open-sky" politics of broadcasting, narrowcasting, tape-and-store-casting, multi-maximization of the media communications world; or perhaps the avalanche of macro-technological changes, readapting our workplaces to a micro-chip cottage, where industry will allow our "assembly-line" to be a screen on our living room tables. With the result that a reassembling of something that resembles the extended family can evolve, even though this new social unit may initially be comprised of total strangers. The micro-chip "family," while the form may have been experimented with during the counter-culture phase of the late sixties and early seventies is a totally new social entity with which educators particularly will have to come to terms. The sausage-factory edu-

cational institutions of the past century, modelled as they were on industrial requirements have been obsolete in my opinion for close to thirty years now. I am well aware that I am not alone in this opinion, and yet we persist in teaching skill for a world that no longer exists. Curricula do not simply lag behind reality; they are all too often almost surreal in their reflection of a selected historical past. Take a look at your geography text for instance, consider the teaching map of Africa alone, and despair (but I digress).

Consider for instance the dynamic, exponential advance of medical and scientific practice and technology which is frequently simply NOT adapted to human mass-utilization because the institutions which once took the responsibility of applying advances to utilization are simply overwhelmed, impeded either economically, socially or culturally from expanding sufficently to incorporate into day-to-day society the practical application of the vastly expanded body of knowledge. Where does de-massification leave the professional educator? More than ever before ON YOUR OWN! The few nuggets of progress in narrowing the gaping hole between what could be called "state of the art" Education and its application to living breathing students is more often than not the result of direct action by creative and generally courageous individuals.

As a nation Canada has no national goals and standards in Education. We, the people who have been consumed in self-examination during at least the past decade, gazing into the mirror of narcissim, have not discovered a means of de-Balkanizing our creaking educational system of at least ten differing philosophies. Canadians, struggling and I believe strangling in our navels through our endless, tedious introspection are simply being superceded by time in a number of critical areas, where new rules are imperative to survival. Our response in education has been at best isolated and individual adaptation to new and perhaps frightening reality, where indeed there has been any adaptation at all. Why? No one chose to lead the way to coping with that current reality. AND... HERE IS CAHPER, still an organization of vast small "p" political potential and influence to perform the catalytic role of crusader for adjustment to new educational/political reality; content it seems instead to continue interactive and often insular professional association as a primary purpose. It is I grant you a seductive and disarmingly comfortable function, that of bringing together professionals in like-disciplines, to pool knowledge and experience and to refresh professional enthusiasm for daily tasks. If that enthusiasm is with the closed circle of your own body, however, you actually short-circuit and truncate your capa-

bilities as a single focussed body of opinion. The world we share today no longer really affords any of us the luxury of such liesurely and inward focussed indulgence.

The world in which we have matured and which admittedly has been good to most of us is dying. Taking shape around us for some time now, there has been an increasingly distinct world in which there is scant time for either serene reflection or protracted study-upon-study. The abberations of the past which we find reappearing in our midst in this new-conservative hour of history, lulls us into the mistaken belief that we really *can* return to the day before yesterday from whence they come.

How else can we explain the disturbing re-emergence of simplistic fundamentalism in an age of utmost complexity. Is there any other possible explanation for the grotesque hooded forms to the Ku Klux Klan racists to suddenly mar the landscape of progress toward racial equality as a civilized human goal. Can we honestly believe that a people inhumanly afflicted themselves by the fascism of another age, could visit unprovoked destruction on their neighbours in the name of peace, if it were not for the fact that the world in which they and we live has altered beyond recognition. In a nation which once respected fellow-human beings for accomplishments of peity, integrity, honour and courage, we suddenly have created one-dimensional man. Economic man; the single criterion by which today's citizen is judged as successful or not. This newly truncated person is the one you must face in your lecture halls and classes. No more a whole human being of body, mind and spirit to nurture, but rather a "bottom line" to be trained and sustained instead! We categorize, we separate, we limit human capability behind our easy, economic labels which hide as much as they reveal. Whether it is on the individual basis, where in this year of the handicapped, that word itself often signals poverty, as do the words "old," "women," and "youth" almost as often. Or on the grand scale of nations; where instead of saying rich and poor countries for instance, we take refuge in calling other nations, developed or non-developed, or first, second and third world residents (Tell me, would you like to be listed a third class nation?), and most euphemistically of all (for I am as you a Northern Hemisphere Northerner) North-South. Why do I bring up the question of economics, financial standing, and poverty in the context of Health, Physical Education and Sport, because regardless of where my Gypsy-wandering has taken me in these past two years I have found Sport. In the Camps of Northeast Thailand where still after immigration to third countries, there are hundreds of thousands of refugees,

you will find Tai Chi Chuan, impromptu soccer, baseball, and mass exercise programs. It is no different in Lebanon or Israel, in North Africa, or deep in the Sudan . . . no matter the degree of impoverishent or lack of liberty, there is a profound desire for health, fitness, and sport—both organized and casual. I ask that we acknowledge the new boundaries of challenge, which is a world many of us may wish were otherwise, indeed in which many of us may not care to live, but which is a reality. We are the first generation of global citizens, oh yes there have always been among us those happy few who could see further than most and who understood that interdependance between peoples and nations was the only way in which all of us could eventually survive, their choice was optional, however, ours is not. The challenge that faces each one of us is to develop those new rules that will enable us to have a hand in moulding the changed circumstances that are tumbling in on us in the name of a new world order.

I have said that the institutions we have known are fracturing. Even much newer entities are suffering the accelerated rate of change. In the rush to globalism it is obvious that the Organization of Petroleum Exporting Countries is suffering growing pains that might prove terminal. Since 1973 OPEC has held Western Nations in the pincers of sky-rocketing oil prices, today OPEC is visibly crumbling, in the face of new world imperatives. There is a dimly perceived new "Trades Union" forming on the horizon, which if realized will profoundly influence the redistribution of this planet's resources. René Dumont, the oracle of the Third World has been calling for such a union of those nations for two decades, it appears to be creaking into life. The result will be further erosion of traditional ideologies of Capitalism, Communism and Socialism, already becoming blurred, and an enforcement that the one quarter of us who are rich, will have less so that the three quarters of us who are poor will have something. Make no mistake the financial people of our world, see the Third World as a *vast threat*, one which could make the current economic colonialization of those countries as obsolete as the old Imperial Empires are today. While Afghans fight off colonialist communists and El Salvadorian peasants fight back landowners' soldiers, equipped for battle by our neighbour nation founded itself in revolution, it is difficult not to be confused. Suspend idealogy from your mind for a moment; could not Vietnam and El Salvador be synonymous, or Poland and Afghanistan? Consider the activist role of the Church in some of these radical changes, their ardent involvement denies their once and future role of ultra-conservatism, totally . . . or does it?

You will be saying to yourselves that's all very well, and thought provoking, but what on earth does it have to do with health and physical education professionals seeking quality programs? Simply this, you can no longer look for or expect leadership in your complex field from outside yourselves. No government, or individual is even vaguely equipped any more to lay out a policy or strategy that bears upon your area of competence without your having framed that policy or strategy in the first place. While it may have been once considered normal procedure for these policies and strategies to arrive full-blown form "on high," and latterly elaborate "consultative" arrangements created mutual endeavours, in my opinion the times are so radically altered that you now must frame, and prepare the political ground for your own policies, yourselves... such is the degree of liberty to make choices now in our society, that the society must rely on your rational and responsible leadership in your own sphere to realize the "common good" in that sphere. Here I quote Willy Brandt, in a context which refers to the individual nature of responsibility:

> The shaping of our common future is much too important to be left to governments and experts alone. Therefore, our appeal goes to youth, to women's and labour movements; to political, intellectual and religious leaders, to scientists and educators, to technicians and managers, to members of the rural and business communities. May they all try to understand and conduct their affairs in the light of this new challenge.

CAHPER can be the articulate lobbyist, the political advocate, the power, that will adapt physical health education to the new world. I have enjoyed an admittedly preferred position in relation to your organization, my respect for your capacity is virtually limitless. I could catalogue in a special chronology all the good that has been initiated in your field by your group. Indeed that would be the safe course to follow in this address. It is, however, history now and while we respect the road that has been travelled and those who have done so, we must marshall our energies for the profoundly changed landscape in which we must operate today. We must cast off self-interest as the primary motivator of our actions, even if it is liberally laced with idealism in favour of the unease and uncertainty of creating a wholly new concept in physical health education. Either we accept and seek the role of leader in our respective fields or accept passive, muted discipline of small priority under the dominance of another more dynamic discipline.

The facts are clear, Sport and Development are two words more and more often heard in conjunction with nation building and mo-

dernization. Economists naturally dominate the thrust toward greater development with the result that their efforts are primarily focussed on industrialization as a development tool. The non-economic aspects of development are only now coming into play in an increasingly interdependant society, where interpenetration of cultures has become a factor in national developments.

Sport scientists and political scientists have to a large degree neglected to favour the functional instead concentrating on the structural aspects of systems under their study. To develop methods and systems of application of new knowledge, cross-nationally, it will take professional activists of great vigour and determination. Political development must take place at all levels; here within CAHPER you can direct the focus of your as yet largely unused political "clout" to provide a useful framework for direct application domestically of scientific advancements not now sifting down to your field of impact. Realizing that the formal sport/leisure system is only one of many inputs into the political system, you have the power when acting as a unit to determine to a very significant degree the priority that will be given your field of endeavour by governments.

Because sport contributes not only to the political form of national development, but culturally, socially and economically as well, your duty as Sport/Leisure/Health professionals therefore is to prepare a message that is clear and eminently comprehensible, while being as practical as you can hone it. Rigorous uncovering of any overlaps, or antagonistic elements is as important as discovering those areas of mutually supportive outputs, so that your political message is never diffused, but focussed with the precision of a laser-beam. In short, CAHPER has a very definite contribution to make to national and perhaps international development. Political activities rest ultimately on the legitimate use of force. (Of course, you should always remember that war is the continuation of politics, by *violent* means.)

Dr. Bernard Booth of Ottawa University says in his discussion paper on "Sport and Political Development" that Sport, more than any other non-political agency is deeply rooted in our societal system and has *great responsibility* for direct political socialization through factory sports, clubs, mass sport demonstrations, school sport curricula and media ideology. The Sport Club environment plays an important role in political education institutions such as the young pioneers of even *Jeuness Canada Monde*. In sport, environment and sport training, the distinction between latent and manifest political socialization must be made in the case of curricular and environmental factors which advance political socialization while perhaps

not planning to do so. The copious sport literature of the DDR for instance points out the significance of home socialization in sport, where middle-class families outside the professions.

The university sports system often provides a future political recruitment area and as such provides professions such as yours with an excellent opportunity to influence future sport development and to some degree societal development as well. Of course, I am fully aware that I am not telling you anything of which you have been unaware. Through the sport training systems, which you initiate, on behalf of your elite students, you have enormous responsibility in moulding putative future leaders of the actual political system. You have only to note the proliferation of sophisticated advancement into the political heirarchies especially of developing countries of former sport stars to note the unquestioned influence of their coaches, trainers and teachers in their philosophies. While here at home the phenomenon is less pronounced, sport is enormously influential in the highest decision making circles, in the Old Boys' Network and in massive corporations. If you accept as I do that where once corporations controlled only the economic aspect of our lives, they increasingly control social, cultural and personal aspects of our existence, once far beyond their purviews, without direct representation. These new psuedo-governments, frequently global in scope are not directly answerable to the people they sell to in anything but their products. Therefore, we are thrown into a position of "hoping" for their benevolent actions without any guarantee that such can be enforced. So while your sport star may not become Prime Minister, he or she may end up running a multi-national corporation and exercising *more* power than if he or she were in a position of overt political prominence.

To those who persist in the polite fiction that politics and sport don't mix, I point out first that there is a difference between politics and diplomacy and second, both as minister and subsequently as a private citizen in sport, I have consistently encountered more direct multi-level political activity and decisions based on small "p" political considerations within sport than within a fully functioning political party. The party of course is closely monitored against such activity by the real opposition to it, in the form of the media, while sport often escapes the same rigid scrutiny by the sleight-of-hand that says what they are undertaking is NOT political. It has been my observation that this highly politicized sport system only takes offence at what it considers to be "political interferance" if that political action is external to its immediate interests or governmental in its inception. Far from being "above the fray," organizations like CAHPER have a

sport socio/political role to play, which if denied will result directly in your group being superceded by other groups who *do* take the activist role. Some groups by virtue of glamour, money or societal approval already have too great a voice in determining sport demand and priorities. In my opinion CAHPER is a voice of balance and experience in this new world order which is assaulting our institutions in waves of ever accelerating change. If demands are ill-defined, where adequate articulation channels exist, the results for sport/leisure/health education are negative. CAHPER has the intellectual capacity to define the demands, to focus them, to balance them, for a variety of sport disciplines. We often fail to realize that most single sport governing bodies are now as large as the entire administration of sport was, less than a decade ago. The maturity of the Sport Governing Body requires cohesive co-ordination or the inequities which are already becoming painfully evident, will widen and the sport democracy which we pride ourselves on possessing as a country will be just another of the delicate fictions in which we wrap ourselves. Indeed you have taken tentative steps in the direction of such co-ordination on occasion in the past, but more often on the periphery than directly. Governments will no longer take the lead role, nor in the opinion of many should they do so, it is sport itself that must take up the load of leadership. Governments job is to see that equity exists, that disparities are removed, but it is Sport's job, in my opinion, to determine how that will be done.

Most, if not all behaviour is learned, which is why you as educators understand more clearly than any other group perhaps, the distinction between latent learning, if you look at it from a political perspective and manifest learning non-political activities. Learning within the sport system is latent, you are responsible; individually and collectively you can perform a leadership function within all the levels of sport which will lead to sport itself creating the strategies and tactics that will determine its priority within the unpredictible, non-scientific evolution of our complex world society.

I am truly happy to be with you again. Especially for the opportunity of making some of my views more widely known in the context of sport organization in general and the role of CAHPER in particular. Thank you, we are still friends!

CHAPTER 3

# MOTOR SKILL DEVELOPMENT

KENNETH H. SEDGEWICK

For the past several years, the Elementary Physical Education course of the B.Ed. program and the Physical Education Additional Qualification course offered at the Faculty of Education, Queen's University, have included Motor Skills development as one of the components. Courses generally followed the format of defining motor skills and identifying their components, observation of children and subsequent opportunities to plan specific developmental skill tasks for these children. Through this sequence the author felt there was a reasonable amount of skill and expertise being developed by the teachers. However, after examining the tasks which were planned, and the type of evaluation of the youngsters' skills, there seemed to be a missing link in the sequence. Consequently, during the last two years, time has been spent examining not only the Motor Skills course, but looking at existing practices in primary physical education programs.

In Ontario, the Ministry of Education guidelines refer to Motor Skills in a most general nature.

> . . . develop versatility rather than concentrate on specific skills.
> . . . a sensitive guide will give intelligent direction at the appropriate moment
> . . . development of movement memories, and refinement of skill . . .

Since the document states ". . . give intelligent direction at the appropriate moment to help children extend their skill . . ." it is assumed that teachers should know the stages of children's physical development and the sequential progression of the basic skills, and as well that they have the expertise and time to critically observe all children and therefore, be able to provide individualized help. Guidelines of other provinces such as British Columbia, Nova Scotia, Alberta also identify motor skill development as an objective for elementary school P.E. In one case the skill of "kicking" is broken into components or movement patterns, but the pattern attainable by children of a given stage (or even grade, or age) is not suggested. Alberta Guidelines (1978) specify:

. . . since no two children will progress at the same rate or possess the same skills, the program must account for individual differences.

There seems a need to develop a program to assist the teachers to get the required knowledge and skill if they are to follow these guidelines.

While talking to teachers about Motor Skills, invariably the question of evaluation was addressed. Although, it seemed the children were getting activities which provided for running, jumping, throwing, etc., there appeared to be little continuity to the types of activities presented in a particular class or amongst the grade levels. However, the teachers' knowledge and accumulated experience generally provided the guidance necessary to plan appropriate activities. There appeared to be a vagueness, however, when it came to actually defining specific objectives or expectations for a lesson or a series of sequential lessons (unit). It was this area of vagueness that provided the challenge to further check out the teachers' goals for motor skills.

In order to get specific data, at the beginning of one course and workshop, both on Motor Skills development, the participants were asked to identify the criteria they use to measure their children's ability or achievement as a basis for reporting to parents and/or for developing further activities for physical education classes. It was evident from the responses that the majority (80%) evaluated the children by determining how far they can jump or how far they can throw (quantitative basis).

*Quantitative and Qualitative Evaluation*

Much evaluation of primary age youngsters is based on their performance scores (quantitative) or even by observed improvement in their performance scores. Considerable has been written showing the difficulties of such evaluation and questioning the reliability of such scores. The Alberta Department of Education, Physical Education Guideline (1973) in reference to evaluation of motor skills states:

. . . In Physical Education each child has his own standard of performance and should be assessed accordingly . . . The assignment therefore of forced marks or grades is not feasible.

It seems obvious that a youngster with little exposure to, or experience at throwing a ball will often have a low performance score, but may quite soon have a high improvement score. Also, depending on the developmental stage of the child he may receive a low score in both performance and improvement. The third alternative is of

course a high performance score and low improvement score. Having tested the child, and recorded such scores, what is the value of them?

A preferable alternative is to observe the movement patterns demonstrated by the child to determine his developmental stage. With this information, logically prepared, sequential activities can be planned to provide for further development of the required movement patterns. Thus, the teacher can help the child develop a particular skill by stressing not only one component at a time but also by focussing on the same component or movement pattern as is the child. To accomplish this, the teacher should know the developmental sequence of the movement pattern required to complete the given skill, the expectations for a child at his given stage, and then be able to plan for appropriate activities based on these observations.

In order to provide a vehicle for developing a pattern of Qualitative Evaluation a conceptual approach seemed to be necessary. To develop an instrument for ongoing evaluative purposes, several factors needed to be considered.

1. The instrument had to be fairly simple.
2. If multiple sheets were to be used, they had to be consistent in terminology and organization.
3. The criteria for evaluation should be conceptually oriented, i.e., when the teacher wishes to evaluate further skills, he/she should be able to use the same approach.
4. The necessary observational skills should be attainable with a minimum amount of practice.
5. The evaluation should be based on accepted principles of motor development.
6. The information gathered should be developmental.

There has been a considerable amount written on the nature of motor skill development. The basic premise used by this author is that children go through stages of development rather than on a continuous line progression. McClenaghen and Gallahue identify three basic stages through which children pass. In each of these stages; beginning, elementary, and mature, the child demonstrates specific movement patterns. Kirchner refers to two stages, minimal and mature, and identifies examples of characteristics of motor skill performance in each of these. Singer refers to Piaget's Stage approach to child learning and suggests that children pass through critical periods or stages in motor learning. When one stage has been achieved the child progresses to the next stage.

In developing an evaluative instrument there appears to be sufficient evidence that it must be an instrument that takes into account the movement pattern or body function required to perform a particular skill as well as providing for the developmental stage of the learner. Although with children up to age seven or eight it appears that generally, the older the child the more effective he is in performing a skill, such consideration as sex, past experience, hereditary and developmental stage diminish the validity and usefulness of such a yardstick. Additionally, the guide or instrument should be such that it is readily usable by the generalist physical education teacher and does not require a great deal of time, or more important, specific blocks of time for testing. It should be usable in a regular physical education period, and be cumulative so that a profile of the child's development can be identified over the year(s).

As important as the guide itself is the availability of a "training package" which provides a knowledge base and an experiential component which allows the teacher to practice analyzing the children's skill level.

To meet the criteria of establishing a qualitative approach to the teaching and evaluation of motor skills, the author identified the following objectives.

There should be:

1. Models of specific movement patterns.
2. Examples of children at various stages of development.
3. Background material, identifying the basis for this scheme.
4. Evaluative instruments which can be used for practice sessions and as a model for developing further evaluation guides.

Readers interested in the progress of this project should consult the author.

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CHAPTER 4

# DECISION MAKING IN TEAM SPORTS

IAN M. FRANKS

Most of the research in the field of human performance centres around the premise that the performer processes information and the transmission of this information is usually achieved via the processes of perception, decision and action. Each of these processes takes time to complete and it is this temporal constraint that usually delineates skilled and unskilled performers. The extent to which an individual can circumvent these processing delays determine that individual's level of competence. The athlete confronts this problem continually during any team competition and yet the training of our athletes does not always take account of the fact that the performer is involved in several interdependant processes. It is common for the training of individuals within a team sport to be concentrated solely on the response processes and completely neglect the perceptual and decision making processes. The following examples are intended to alert the coach to the problems facing the athlete and to guide the coach in the planning of an "athlete centred" coaching program.

The development of tactical thinking in most team games has revolved around the principles of possession. That is to say in most ball games possession of the ball is of paramount importance. Ball possession in team games is at the apex of any tactical reasoning, and therefore the first decision each team member must make is with relation to ball possession. For example, "Does the team I am playing for have possession of the ball?" The answer to this initial question will lead the team member to the priorized objectives of the game he is playing. If the answer is "yes" then the athlete considers all the skills that would enable his team to, (a) score goals or points and (b) keep possession of the ball. However if the answer to the question that was originally asked is "no, my team does not have possession of the ball,"

then the athlete must consider ways to, (a) stop the opposition from scoring, and (b) regain possession of the ball.

Achievement of the game's objectives involves further decision making in order to specify exactly what action the individual player should take. The information load placed on the performer by these decisions can be reduced to a minimum by presenting him with one binary decision at any point in time. The derived actions are seen as the result of successfully traversing a binary decision tree, the Structure of which can be laid down by the coach. The aim of the coach is therefore to guide the performer through the decision making process, not by means of "trial and error" but by means of "trial and success." The efficiency of performance will stem from a clear, concise link between perception and action.

*Feedback*

Since the environment is continually changing during a game and most information processing models are dynamic, individual performers are thought to process the consequences of their actions. Therefore a further observation that can be made is that man utilizes *feedback* to adjust, correct or change his intended actions. Woodworth (1899) stated that people do not *think* about every movement but they have an intention at different levels of the processor. It is this intention that decides upon the strategy process to be undertaken. Any change in the intended actions therefore relates to a change in strategy. This continual reassessment of a player's intentions is evident within any team game. Along with a simple binary decision tree must come the required feedback loops. For example if a player has answered the primary question relating to ball possession, the resulting state (defending or offending) must be continually reassessed. An offensive player who is displaying his technique on the ball is very much aware of his objectives because his state is at a high level in the hierarchy of the decision tree. When this player is dispossessed by a defending player the feedback has an almost immediate effect. The player realizes very quickly he has now changed his state to one of defending. On the other hand, if an offensive player is at the bottom of the decision tree, having asked several questions, it will take this player longer to reassess the initial feedback loop relating to ball possession. The assumption made therefore is that reassessment can occur and varying levels of the decision tree and the time taken to process any feedback loop is dependent upon the remoteness of that loop with respect to the present state of the performer.



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*Learning*

A major factor that affects the feedback process is that of learning. The more often the player meets certain environmental changes that cause him to traverse the decision tree, the more likely the player will be able to predict certain outcomes. That is of course presuming the player is guided (coached) through the process of making decisions. Too frequently players within a team are left to their own devices in regard to individual decision making. Hence the player's only concern becomes decision making in and around the area of the ball, and those players who are not directly involved with play do not consider themselves an intricate part of team play. Guiding players through the decision tree is important in the learning process and allows players to predict certain occurrences during the game with respect to this questioning framework. Anticipation therefore plays an important role in the optimization of a teams performance.

*Systems of Team Play*

The present model transends variations in team systems and formations. The basic principles of team play that are illustrated via a decision tree apply to each individual. Whereas all individuals will be asking themselves similar questions in order to fulfill common objectives (i.e., offensive, scoring and retaining of possession), each player will have to make decisions relating to *all* aspects of play. Systems and formations are inherently restrictive. They are needed to organize and align players to certain responsibilities during any one game. The amount of organization of individual players depends upon the game being played. American Football, for example, requires players to perform very specific tasks. The probability of players interchanging rolls in American Football is far less than it is in say Ice Hockey.

The system of play therefore can be said to vary *between* team sports and also *within* team sports. This variation of systems within a sport is what has been the basis of tactical development. In general most sports have moved toward a more flexible and less restrictive system of play. Two examples of this advancement have been the concept of "Total Soccer" by the Dutch in the 1970's and the free skating, mobile Russian Ice Hockey Team, also from the 1970's. The more restrictive the system of play is on any team, the more limited the individual player is in making personal decisions. Therefore the binary decision tree can be aborted at any branch depending upon

the limitations placed upon the individual. Hence the initial question relating to ball possession with its eventual outcomes only applies to a limited number of players in a limited area of play.

*Implications for the Coach*

The model that is proposed is one of total individual involvement within a team game. Players are asked to think and make decisions continually during the game. The model makes assumptions relating to the fundamental aims and objectives of the team game. These objectives may not span all games but it is essential that all members of the team have the same objectives to attain during a game. It has also been recognized that the decisions made by the individual players are made within a changing environment and movement throughout the decision tree is dynamic. Given that this model has made several assumptions relating to individual decision making within a team sport, what then are the problems facing the coach?

Firstly, the coach should realize that the player is involved in three processes during a game, those being perception of a changing environment, decision relating to all aspects of play and selection and execution of the correct action. Secondly the coach must be aware that his practice time is best spent when maximal transfer is achieved. That is, performance in situation A (practice session) is directly related to performance in situation B (game). It is important therefore for the coach to create a practice environment in which the player has to perceive, decide and act. In the majority of "unopposed drills" used in various team sports, the decision stage is omitted. Well organized, fast, efficient drills very rarely involve the player in making decisions as to what response to select. The selection problem is taken away by the coach who will usually demand a specific technique in a specific drill.

*Conclusions*

Individuals within a team continually make decisions during any one game. The decision making process can be structured to align all players to similar game objectives. If *all* players within a team are trying to fulfill similar objectives by different actions then team performance should improve. Also, if all players understand the reasons behind each other's actions then cohesive team play is inevitable.

The binary decision tree has been used to illustrate how the players within a team game can be guided in their thinking process. The im-

plications for both coach and player are far reaching. The essence of any "coaching drills" have to be questioned if the process of decision making is omitted. The player's understanding of direct and indirect involvement in team play has to be tested by intelligent use of the practice environment. The restrictive nature of the sytem of play that is used has to be weighted against the potential of each individual to contribute totally to the team effort.

Individual technical excellence is still considered to be of paramount importance in any sport, however the model that is proposed in the present paper highlights the events that occur prior to the execution of the technique. Consideration must be given to the fact that the performer processes information and that the perceptual and decision processes must not be overlooked when considering the player within a team game.

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CHAPTER 5

# NEGLECTED HERITAGE: DEVELOPING A SPORT HISTORY PROGRAM

PETER W. WEBSTER and HEATHER HARRIS

Why should teachers want to develop sport history school programs? Why not? How can you teach social studies WITHOUT including sport, recreation and games? Our Federal Minister of Fitness and Amateur Sport, Gerald Regan, has suggested that

> When historians examine our great nation's cultural and social fabric to determine the nature of the multi-hued threads which the centuries have woven into Canada's Heritage, our sport history has to be recognized as a colorful part of this fabric.

The British Columbia Sports Hall of Fame and Museum considers the development of sport history school programs a priority. Our Hall is "dedicated to the youth of the Province" so we are, in fact, fulfilling a mandate.

*How?*

The Hall had the products. You, the teachers, had the framework. Our program is a result of teaming our resources with your curriculum needs. Our priority was the development of field trips for the intermediate grades 4 through 7. The draft proposed social studies curriculum guide from the British Columbia Ministry of Education suggested *content* and *skills* goals.

*Content*

The Guide lists:

| | |
|---|---|
| Grade Four | - Early Settlement in Canada |
| Grade Five | - Development of Canada |
| Grade Six | - World Neighbours |
| Grade Seven | - People and Places |

In terms of the Hall's resources:

| | |
|---|---|
| Grade Four | - PIONEERS: learning about pioneers' sports and pioneers in sports, |
| Grade Five | - DETECTIVE GAME: students are concerned with Canada and British Columbia as they find out "who did it" for British Columbia in sport and brought honour to the Province, |
| Grade Six | - WHERE IN THE WORLD?: students are newspaper reporters finding out "where in the world" our athletes travelled performing their feats, |
| Grade Seven | - LIFESTYLE: students focus on who, when, where—but zero in on "why" a person would choose a lifestyle in sport in any period of time in B.C. sport history. |

*Skills*

Social studies teachers concern themselves with the introduction development and/or reinforcement of many skills. The Guide identifies "skills which are the major responsibility of social studies" as

1. Inquiry processes
2. Interpreting maps and globes
3. Understanding time and chronology

Our questionnaires assist students in learning how to gather information and record in and, in that way, work through the inquiry processes. The grade six field trip best exemplifies the development of the skill of "interpreting maps and globes." Students locate *where* athletes have travelled. An example? *Where* did Karen Magnussen win the world championship? *Bratislava*. Where did Doug Hepburn excel in weightlifting competition? *Stockholm*. Grade Sevens learn "understanding time and chronology" in a variety of activities. We take a particular sport like aquatics—examining the lifestyle of two swimmers in different eras gives students a sense of time periods and also ordering of events in peoples lives to come up with some idea of time lines. When students look at the display cases of Audrey (Griffin) Kieran and Elaine Tanner they get an idea of the differences in training and travel and support for these two athletes—one of the 1930's and the other of the 1960's.

*Museum*

Our Hall is a "Hall of Fame and Museum." Students at the grade 4, 5 and 6 levels learn that the objects in our Hall are called "arti-

facts." That the Hall is a museum that preserves our *heritage* or what we have *inherited* from the past. By grade 7, these artifacts take on a real teaching role. Students examine the pieces of equipment and uniforms we have to acquire an understanding of changes and modifications that have occured . . . and to try and make some educated guesses as to *why* these changes and modifications happened. The way the display cases are set up, students can readily see differences in such things as football helmets, tennis racquets, golf clubs and curling stones.

*Teacher's Guide*

Arthur E. Salz, a professor with the department of Early Childhood and Elementary Education at Queen's College, New York, asks, "Have you used Sports in your curriculum and taken advantage of the enormous fascination kids have with such activities? The opportunities are endless." He certainly was right. Our Guide has social studies activities for each grade level.

In geography, for example, we have simple directional activities for the grade fours. They map the Hall in relation to their school. Grade Fives take the list of cities and municipalities that have contributed to our Hall (we have those names on a plaque in our foyer) and do a location exercise. The grade sixes make up their own fact sheet of "Where in the World" our athletes have travelled and then locate and mark those places.

Language arts forms a major component of our Guide. The Vancouver school system is making use of the Ginn Starting Points in Language. We've taken stories from each grade level and suggested how they can be utilized in terms of the Hall. Grade 5, for example, has a "What's a Hero" section—so we suggest using our sport heroes. Grade 6's have "Take Me Out to the Ball Game"—why not Nat Bailey stadium for that ball game or some other baseball shrine of your choice. "They Dared to be Different" is a grade 7 study and there are many instances of "daring to be different" in the lives of our own sport heroes.

Other language arts ideas? We have a list of sports recognized by our Hall of Fame. One activity suggests that students choose one of these sports and zero in on the vocabulary of that sport: equipment, player positions, sport facilities, actions, rules, techniques. Then students are introduced to lettering and layout techniques and design posters to illustrate their sport vocabularies.

*Resources*

When you begin to work in this area of "neglected heritage," I think you might begin to wonder "how neglected is it" in terms of material? There are an increasing number of books dealing with sport history. *Canada's Sporting Heroes*, *Sport Canadiana*, *Sports and Games in Canadian Life* are a few. Locally we have *The Vancouver Canucks*, *Vancouver Rowing Club*, *Nancy Greene*, *Karen Magnussen*, *The Patricks*, *Cyclone Taylor* and more on the drawing board.

*Where Do We Go From Here?*

Our field trips are under periodic review. We've begun development of a field trip program for secondary students. This would involve oral history techniques as well as the actual behind-the-scenes working of a sport museum.

Our program actually began with an interview in the *B.C. Teacher* magazine coming from the British Columbia Teachers' Federation. The B.C.T.F. offered TEACHER AWARDS and we were fortunate to receive one that will permit us to take the program provincially through lesson aids in sport history. Our present program is a field trip one and so is used mainly by Lower Mainland schools. We are designing lesson aids such as a film strip and cassette on the history of sport in British Columbia; a booklet giving background in the Hall and biographies of our Hall of Fame members; a sites and statues unit taking advantage of all the tributes to our sport heritage throughout the Province—and a games and puzzle book on sport history material—again for intermediate students.

*How Can You Get Started?*

There is quite a support system developing for teaching sport history school programs. We have the material at our Hall of Fame and the upcoming lesson aids. In Canada, the Canadian Association for Sports Museums and Halls of Fames that is North American in its scope would welcome your inquiries. Many are just beginning to develop school programs and you might want to team with them. CAHPER has its own History of Sport and Physical Activity Committee with sport historians in every Province (they are having an open meeting this afternoon that you might find useful). There is also the North American Society for Sport History. Both excellent resources. Academics are often accused of being "ivory tower" in their attitudes but

Dr. Sandy Young, sport historian at Dalhousie University, has thrown out a challenge to his colleagues. He suggests—

> I assume perhaps falsely, that we who write history, do so in hopes that someone, perhaps a number of someones, will read it. I would suggest that any "Ivory Tower" dwellers who don't believe in coming down to help the children learn should stay home the night the "Tower" falls; and fall it will.

WHY should teachers want to develop sport history school programs? In doing so you will ensure that our children gain insight, knowledge and appreciation of *all* aspects of "our great nation's cultural and social fabric."

CHAPTER 6

# AGAINST ATHLETIC SCHOLARSHIPS

PATRICIA A. LAWSON

The format of this presentation did not make it possible for me to know ahead of time the arguments that Mr. Davies would present in favour of athletic scholarships. But I did have access to a report issued in January 1981 by a CIAU Committee appointed to look into athletic awards. In the preamble of that report they identified 19 pros and cons of an Award System. I'm not going to react to each of the 19 items individually but since I think they include most of the points usually involved in this kind of debate, I have chosen to group them into categories and in that way give my reaction to the kinds of arguments usually presented by those in favour of athletic scholarships.

1. The first set of issues revolves around a discussion of whether or not Canadian Universities could institute an athletic awards system but avoid the abuses prevalent in American institutions. Contrary to those favouring scholarships I contend that the institution of an awards system would lead to: (1) undue emphasis on winning-losing and a subsequent de-emphasis of goals in the remainder of the program; (2) a circumventing and ignoring of academic goals through entrance violations and other academic abuses; (3) an increase in recruiting activity as it relates to out-of-province or out-of-country student/athletes; (4) the exploitation of the student/athlete; (5) an attitudinal change between coach and athlete as far as education goals are concerned; (6) a higher emphasis on the recruitment of student/athletes which would lead to abuses; and (7) the coach spending inordinate amounts of time recruiting to the detriment of his/her other duties.

Anyone who reads *Sports Illustrated* is fully aware of the problems American institutions are having because of athletic scholarships. To assume that Canadian coaches are somehow more honorable people is, I think, naive. In fact one argument put forward by the advocates

of athletic scholarships is that coaches are already offering inducements illegally so we might as well bring it out from under the table. But if there are presently coaches who bend the rules what is to prevent them from doing so in the future? If a policing force is going to be necessary when athletic scholarships are introduced, wouldn't it have been easier to police the few minor infractions that were occurring before?

The acceptance of only second or third party scholarships does not make the situation any better. Coaches and institutions are still going to be looking out for #1. For example in B.C. all athletes at all B.C. institutions receive $1,000.00. But Simon Fraser is not giving up their former scholarships because they still want to keep the edge over other Canadian institutions. Also, 2 of 3 provinces in Canada West now have government scholarships; Saskatchewan doesn't. B.C. and Alberta were asked to attach a 2-year residency requirement to their scholarships but they refused because they can recruit outside of their province and promise the athletes $1,000.00 a year for all but their first year of playing. Three football players graduating this year from high school in Regina are going to attend U.B.C. next fall.

Recruiting cannot be separated from athletic scholarships. By definition, it is recruiting if you provide an inducement to a student to attend University.

II. The second set of issues often involved in any discussion of the pros and cons of athletic scholarships is concerned with their effects on the number of athletes and teams. The proponents try to argue firstly that the number of good student/athletes playing University sports will increase and secondly that scholarships may be a way to assist regions to upgrade their competitions and provide competition where it does not now exist.

On the contrary, I would argue that exactly the opposite is already happening and will continue to happen with athletic scholarships. An article in *MacLeans* magazine this past winter discussed the dire financial straits of all Canadian institutions. There are just not enough funds available so Universities are reducing the number of sports in their programs; The Great Plains conference is the prime example. Brandon University is now involved in two men's sports and one woman's sport.

Paying athletic scholarships to athletes does not help the financial problems the University programs are experiencing. If those same sums were made available to the programs it could improve the balance of competition, it could reverse the trend toward eliminating all but the high profile, mainly male sports.

III. The third set of arguments used by those favouring athletic scholarships discuss the advantages to the individual athlete. They argue:

(1) That the pursuit of excellence of athletes should be recognized in the same way we do in music, drama, art, etc.

(2) That sport elitism requires time and dedication by the athletes preventing them from holding part time jobs while attending schools thus producing financial hardship.

(3) That athletic scholarships may be a way to encourage and motivate students to continue their education.

(4) That athletic scholarships may be a way to encourage student/athletes to attend Canadian Universities rather than enroll in U.S. schools.

Those arguments are based upon a basic assumption with which I cannot agree—that the student/athlete deserves renumeration more than any other student (except those based on scholastic achievement) because they have athletic talent and because they put in a lot of time practising. Many students would like to benefit from the expert coaching, trips, comraderie, etc. which are enjoyed by the athletes.

Bursaries are and should be available to students who can show financial need—all students.

The reference to art, music, drama, etc. is not a valid argument because the situation isn't analagous. It might be, if our football players were pursuing a degree in football.

Also, the number of scholarships awarded in the fine arts is not very great and they are almost always awarded on the basis of artistic and academic talent. In fact I'm sure the people in fine arts are very envious of the budgets of our athletic departments.

The "keeping-athletes-in-Canada" argument is in my opinion not a good enough reason to launch into a wholescale plan for athletic scholarships. If the ultimate objective were to provide an athletic opportunity to as many Canadian students as possible this would be seen as an advantage. It isn't the student/athlete's welfare that is being considered in this case it is the ego of the coach, the institution and even the Canadian government.

IV. The final set of arguments usually given by the pro side I have grouped together as follows:

(1) Athletic scholarships will increase the recognition of sport as a cultural entity in Canadian society.

(2) They will enhance the image of university sport in the eyes of the general public.

(3) They will upgrade the quality of inter-university athletics.

(4) They will provide the opportunity for the University system to be part of the development base for national athlete identification, preparation and training.

(5) They will provide a vehicle for outside agencies to become involved with university athletes through third party assistance programs.

One has to ask why the University athletic programs desire to receive more public recognition. If the answer was that they have a strong belief in the value of physical activity and that by providing the role model they might encourage more people to be active. If that was the motive, I could almost agree. But if it were, we would be attempting to involve more and more students in more and more sports and that is not the case.

Also, I have concluded that "quality" programs means winning programs. The University of Saskatchewan basketball team finished near the bottom of its conference for quite a few years—because we didn't have a quality program. This year we acquired two talented players and finished near the top of the league. The budget, competitions, coach, everything was exactly the same but I'm sure this year we are judged to have a quality program. Only one team can win and you have to have the best players to win so you have to go out and get the players—by hook or by crook—then you have a quality program.

The line of thinking represented in these comments may be the most dangerous of all. Athletic scholarships are seen as a way to give glamour to our programs; to give recognition to the University as the highest level of competition next to the pros. It is really only talking about football, basketball and hockey in our country. In all other sports it is unreasonable to assume that a person who is of international calibre has the time to be also a full-time student.

To this point I have tried to show why I am not convinced by the arguments "for" athletic scholarships.

Let me conclude with a few other observations:

(1) The decision to move to scholarships is not being made by University faculties or physical education faculties. I have no doubt that it would be defeated if it were put to a vote of either of those two bodies at any institution.

(2) I realize that there is a fine line between "doing ones best" and "winning at all costs" but if the institutional representatives to the CIAU and the conferences do not change their focus from voting for what is most "advantageous to me" to "what is best for all institutions" we are going to see an even more rapid acceleration in the decline of sports and entire programs.

(3) Canada is not the United States. Our society views sport differently. Bigger is not always better. The addition of athletic scholarships is somehow expected to produce winning Olympic teams *and* thousands of fans. In my opinion the role of the University in sport should be the same as any other extension function of the Universities—to use out expertise and influence in developing sport within our provincial jurisdictions. It would take a lot longer but the results would be much more justifiable.

Finally let me say that I love sport and I do think we should have intercollegiate athletic programs. If I didn't I wouldn't be here arguing for a different approach—an approach that doesn't include athletic scholarships.

CHAPTER 7

# THE SOCIOLOGY OF UNIVERSITY ATHLETIC AWARDS

JOHN C. POOLEY

Sport sociologists have developed a burgeoning interest in educational institutions, particularly at the tertiary level. Although the degree of emphasis and focus varies, all recent texts in sport sociology include a section on the place, form, and analysis of sport in schools and universities. Examples may be found in Gruneau and Albinson (1976), Eitzen and Sage (1978), Loy, McPherson and Kenyon (1978), Leonard (1980) and Luschen and Sage (1981).

A particular interest is the continuing debate about the heightened profile of athletics in universities in North America. Whereas much of the analysis and discussion has been centred in the United States, a recent flurry of interest is currently developing in Canada, of which this panel discussion is but one example. At this moment, across the country, university athletic administrators, coaches, and the Canadian Intercollegiate Athletic Union, are considering restructuring one particular element, namely athletic awards. This paper will address the following: the place of athletics within universities and in the broader society; how a financial award system for athletes has evolved; wherein lies the power for its establishment; what is the current locus of control; and the effect an increase or diminution of awards might have.

*University Athletics*

University athletics are more highly structured and controlled by faculty and administrators than other student services (for example, unions). They are not particularly instruments of change. Rather, they reinforce the existing system, especially with respect to values, and legitimize long-standing distributions of power and status. There is a belief that athletics has failed to respond to the criticisms of the 60's and 70's.

University athletics is currently under great scrutiny. Most atten-

tion is adulatory; positive reinforcement comes from the media who feed on it and are rarely critical. Fragmentary criticisms come, however, from the academic community.

A sociology of athletics must be concerned with: (a) who controls it, i.e., decides the form it takes, (b) why there is a status hierarchy of sports, and (c) why and under what conditions students are excluded from athletics. It requires an understanding of the purpose of athletics, the nature of experiences for athletes, coaches and administrators, its availability, their response to it and the consequences of it for them. A sociologist is interested in how society selects, classifies, transmits and evaluates athletics.

In this brief analysis both a macro and micro context for athletics is touched upon. A macro approach implies the view of athletics and its examination in the context of society; a micro analysis implies a more limited context, that is, how power, distribution of resources, values and outcomes affect constituent members of the system. For example, in Canada, one must examine the degree to which athletics are athlete or coach-centred. Naturally, there will be important differences in the control system between institutions, but a persistent pattern has been established across Canada. There are likely to be more marked differences between countries.

The norms and power system in university athletics reflect the normative and power systems of society, for athletics has an unavoidable relationship with society. Consequently, athletic awards are part of the micro system of athletics but also the macro system of the whole society.

The more organized and professionalized university athletics becomes, the more rewards are expected by the "workers" and the more work-like it becomes. Organized university sport lost its playfullness and casualness when the power changed from student to coach and athletic director. There then evolved a cadre of support staff which transformed athletics into a bureaucracy which measures input and output. We now have in vogue an emphasis on product rather than process.

In summary, awards for athletes have evolved in the United States and are currently evolving in Canada because rewards for endeavour are associated with an achievement-oriented society.

The sociologist tries to explain how athletic awards evolved in Canadian universities; the source of power for their extablishment, reappraisal and control; how an award program effects the beneficiaries and other or potential athletes in the system; and, given these facts, what can be predicted for the future.

*How They Evolved*

University athletics in Canada have two antecedents; the U.K. model and the U.S. model (which originally was spawned from England). Currently, Canadian university sport much more closely resembles United States sport. Overall societal diffusion of U.S. values and practices, including those specific to sport, occurs through media coverage (often instantaneous) and a general interplay between societies. Particular influences come from the presence of athletic administrators or coaches from or educated in the United States, or by Canadians influenced by the model they observe in the south.

*Power for Establishment*

Coaches and administrators have a responsibility for preparing successful (i.e., winning) teams. To be successful at national level now requires competition with the best teams available cross-nationally and, in some instances, internationally. For example, Dalhousie teams have played in the U.S., U.K., Bermuda and Mexico in recent years.

Alumni and community support is heightened when teams have a chance for regional or national honours, and where supporters pay an entrance fee, they have a higher expectation of performance. Consequently, better athletes are attracted to institutions in various ways: coaches' reputations, winning performances, excellent facilities, or attractive fixtures. Inevitably, other lures will be designed. A variety of monetary support attractions have been offered by political and alumni groups. Institutional personnel are discussing first party awards within universities and more generally through their representatives at the CIAU.

Political support at the federal level has firmly established the view that university athletic departments are required to produce national level teams and athletes.

*Locus of Control*

There appear to be three types of control *viz-à-viz* university awards. First, athletic departments in universities or in some instances athletic divisions within "physical education" departments, control and direct athletes within the normal constraints of the university administration, through direct contact with a president or vice president on the one hand, or through a physical education chairman and/or dean on the other. The second important control is lodged in the

institution of the CIAU, to whom the majority of universities belong.

While the implementation of awards is being considered by a CIAU appointed committee for consideration at a CIAU Committee of the Whole meeting this month, some universities have been or are presently considering awards within their own institution. A third "control" is in the hands of regional associations which act autonomously enough not to be bound by CIAU pressure.

As expected, in view of the unrepresentativeness of athletes on CIAU and university based committees, few opinions from current student athletes or recent athletes are represented. Consequently, the control of awards is in the hands of university administrators. This is hardly surprising in a social system where coaches are superordinate to players.

*Athletic Awards and the Future*

From what we know about university athletics in the United States as well as in our own country, it seems reasonable to predict the effects of an escalation of athletic awards on the one hand, and a diminution or maintenance of the *status quo* on the other.

*More Awards.* If the athletic award program is expanded, the following are likely to occur (these will be listed only, since space limitations do not permit a rationale for each):

(a) there may be a higher level of skill demonstrated by individuals and teams

(b) student athletes will be under less pressure to obtain a job to pay for their education

(c) some athletes, who would not otherwise do so, may remain in Canada rather than attend United States institutions

(d) more student athletes may be able to attend university

(e) current illegal money granting may be more tightly controlled

(f) it will be very costly

(g) there are likely to be regional disparities

(h) we will see the demise of some sports

(i) one can expect greater inequalities in the treatment of athletes inter- and intra-institutionally

(j) the public and media will expect universities to produce more national calibre athletes

(k) there will be stiffer accountability from federal and provincial governments, should they foot the bill

(l) there are likely to be more abuses of the interface of athletics and academics

(m) those athletes receiving financial aid may experience more pressure and may be more abused

(n) more people will claim that Canadian athletes have become professionals.

*Maintenance of the Status Quo or a Diminution of Awards.* If fewer awards are given the following may occur:

(a) the university will be perceived less as a place where the best athletes and teams are developed

(b) more student athletes will achieve higher standards of academic excellence and more marginal students will graduate

(c) much less time and money will be spent on recruiting and more money will be saved overall

(d) inequalities between sports will be minimized

(e) more money may be available for junior varsity teams or to promote the development of new sports into the program

(f) there will be less pressure on athletes and coaches

(g) students, other than those usually recruited, will have an opportunity to compete

(h) available facilities and resources will be shared more by the university community

(i) the media will pay less attention to university sport

(j) the general public and university community will be less likely to attend varsity games and contests; this will be more critical for universities located other than in large cities.

It should be noted that each of these possible outcomes is not without debate, nor are lists complete. Furthermore, although this paper has focussed on awards to student athletes, these have been limited to direct financial support only. Students, in varying degrees as a function of each university, derive many benefits from their participation in an athletic program.

*Conclusion*

The alternatives seem plain. To increase the entire financial award system and have university sport in Canada more like "big-time" university sport in the United States will result in: heightened seriousness; increased bureaucracy and restrictiveness; being subject to external utilitarian pressures of winning and losing; gate receipts; television contracts; and national prestige. By contrast, universities could "hold the line" and thereby: retain or reaffirm close educational ties; make varsity sport more recreational and more open to a broader spectrum of students; and subscribe to the principle that

"sport should be conceived as a form of human endeavor that begins and ends within the individual and which has its own reason for existence" (Snyder and Spreitzer, 1981; 142).

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CHAPTER 8

# THE PRISONER'S DILEMMA: CAN IT BE AVOIDED IN COMPETITIVE PHYSICAL ACTIVITY?

DEBRA A. SHOGAN

The mathematical discipline of game theory is concerned with calculating the best strategies for two or more individuals who are making choices from among available alternatives. There is an instance of a game in which the attempt by two individuals or groups to maximize their outcome leads to a genuine dilemma or paradox. By attempting to maximize outcomes, each individual (or group) finds himself in a situation which is not the best outcome for either individual. Both players make a rational choice to optimize their outcomes, and both lose. This paradox is called the Prisoner's Dilemma after the anecdote used to describe the game.

Two prisoners are charged with the same crime of which they will be convicted only if one of them confesses. The prisoners are told that if they both confess to the crime they will both receive five years in jail. If neither of them confesses, some trumped up evidence will put them both in jail for three years. If one confesses while the other does not, the one who confesses will receive one year in jail and the prisoner who does not confess will receive ten years in jail.

It is evident, that by confessing the worst outcome for each prisoner is to spend five years in jail and the best outcome is to spend one year in jail. By not confessing, the worst outcome is to spend ten years in jail and the best outcome is to spend three years in jail.

Each prisoner attempts to create the best outcome for himself and consequently each confesses to the crime and each receives five years in jail. The dilemma is that by attempting to maximize outcomes, each prisoner is left with an outcome which is not the best for either prisoner. Because each prisoner knows that the other prisoner is attempting to maximize his own outcome, each chooses to confess for fear that the other is confessing. If the other confesses while he does not, his own outcome will be ten years in jail, while the other receives only one year.

An example of the Prisoner's Dilemma, the outcome of which will have an affect on the future of this planet, is the arms struggle between the United States and the Soviet Union. The best outcome for both the United States and the Soviet Union (and consequently for the rest of us) is to stop producing weapons but only if they do so at the same time. The dilemma is that, even though it is best for both to disarm, both continue to escalate arms production. Each country knows that the other country will attempt to maximize its outcome and consequently each chooses to escalate because each does not trust that the other will not esclate. By attempting to maximize outcomes, both countries are left with an outcome which is not the best for either (or the world).

It is my contention that participants in competitive physical activity have become game theorists in the mathematical sense of that phrase. Participants approach competitive activities with the intention of maximizing their outcomes. The meaning of competitive activities is found in the outcome as represented by win-loss records, medals and trophies accumulated, championships and scoring races won. This concern for outcome has caused the Prisoner's Dilemma in competitive physical activity—an attempt to maximize outcomes has produced an outcome which is unsatisfactory for all.

Such practices as taking steroids, blood doping, inhibiting the onset of puberty, and psychological manipulation is indication enough that the age of the Golden Girl[1] is here. In the quest for a winning outcome a participant cannot trust his or her opponent not to be undergoing physical and/or psychological manipulation. If one's opponent is taking steroids, for example, and an individual chooses not to, his or her strategy is weakened and the outcome is minimized. If both opponents take steroids, they are both left in a situation which is not the best for either. They both take steroids to maximize their outcome and are left in a situation which is harmful to the health of both.

The circumvention of an organization's code of ethics and regulations or deliberately breaking a game rule with the intention of not being found out[2] undermines the very meaning of game playing in activity. The meaning in competitive activity is not to be found in the outcome alone. Meaning is attached to the process leading to the outcome. "It is the *bringing about* of these results which is important . . . rather than the results themselves."[3]

There are some institutions which are not only regulated by rules but are also constituted by them.[4] These constitutive rules make the *activity* possible. In high jumping, although the contestants want to be on the other side of the bar, they do not use ladders and catapults.

The goal is not to be on the other side of the bar *per se* but to do so only using the means permitted by the rules.[5] Rules allow the actvity of high jumping to take place and consequently limit the ways one can utilize to get to the other side of the bar. When someone indicates that there are other ways to accomplish the end of a game which are not permitted by the rules, they are under the mistaken impression that winning *per se* is the goal of the game. Winning, however, gets its meaning from the rules of the game since rules constitute the activity.

Since the activity as constituted by the rules is only possible as long as the rules are kept, it follows that the best "outcome" for all game players is to ensure the continuance of the game by keeping the rules. Competitive activity does not submit to game theory. Game theory is concerned with outcomes alone while competitive activity *qua* competitive activity must be concerned with the activity itself as constituted by its rules.

Nevertheless, there are many individuals who participate in competitive physical activity who identify winning as the goal of the activity without regard for the process necessarily entailed. When these individuals compete against each other, each attempts to maximize the opportunity for a winning outcome which results in a Prisoner's Dilemma. Neither gains an advantage and the meaning of the activity is destroyed for both.

How can leaders in sport and physical activity ensure the meaning of activity? How can participants come to understand that winning a game means that one must have played the game as constituted by the rules? How can the Prisoner's Dilemma be avoided?

As obvious as it seems to say that education is the answer to this difficulty, it is not so obvious how to go about the process, or so it appears from observing what leaders are presently doing in the competitive environment. For all our claims about the benefits to an individual's character through participation in competitive activity,[6] we have done virtually nothing through a systematic, well-planned approach to ensure our claims. Instead we seem content to contend that merely by being in contact with the sporting environment participants will learn sportsmanship, fair play, and playing by the rules.[7]

If leaders in competitive physical activity are not to be held responsible for the demise of competitive activity, then the "sportsmanship myth"[8] must be addressed and a systematic effort must begin to ensure that sport as constituted by its rules is not forever lost. Surely those, who are the curators of competitive physical activity, as constituted by its rules, remains intact. Surely leaders have a right to include only those individuals in the activity who will uphold the

meaning of the activity. It is the duty of leagues and associations to use sanctions to regulate and supervise the equitable conditions of competition.[9]

To ensure the meaning of physical activity, the least that must occur is the enforcement of the rules and the elimination from the activity of those who will not keep the rules. At present the contrary appears to be occurring. Those who attach meaning to the process of the activity which leads to the outcome constituted by the rules become trapped in the Prisoner's Dilemma by those who attach meaning only to the outcome. Over time those who would protect the meaning of competitive activity are weeded out and only those who would destroy it are left. For example, it may very well be that there are few individuals presently competing in international weight lifting and throwing events who do not take steroids. Any individuals with outstanding natural ability who refuse to use such aids are no longer competitive.

The minimum that must be done if competitive physical activity is to survive *qua* competitive physical activity is to demand that those participating conform to the rules. Keeping the rules for the *sake* of the activity they make possible implies, however, more than conformity. It implies an appreciation, an understanding, an attitude that cannot be achieved by imposing the values of those in charge on the learner. Such an appreciation, understanding or attitude is possible only through education—through a deliberate, systematic attempt to allow the learner to investigate the alternatives of the issue. As long as individuals are only trained to conform to the rules, we have not guaranteed his or her understanding of these rules as they constitute the meaning of the activity. Consequently, the meaning of the activity of the game *qua* game remains on shakey ground.

If moral education is our concern rather than moral training how do we accomplish it? There has been a dearth of research done in this area in respect to competitive physical activity. We would do well to examine the works of Lawrence Kohlberg, for example, whose cognitive moral development theory has its bases in the work of Piaget (*The Moral Judgment of the Child*) and Dewey (*Moral Principles in Education*). From a fifteen year longitudinal study of cultures around the world, Kohlberg has proposed a hierachy of moral development consisting of three age related levels, each having two stages. Advancement through the hierachy indicates a development in moral reasoning. The essence of Kohlberg's position and others working in the area of cognitive moral development is that education can effect an individual's moral thinking. "Cognitive" refers to organized thought

processes. "Moral" involves decision making in situations in which universal values conflict with authority and "development" indicates that patterns of thinking about moral issues can qualitively improve with time.

If cognitive moral development is possible, it is imperative that the methodologies developed by those in education philosophy and psychology be critically examined by those in physical activity with the intention of putting into place a methodology for cognitive moral development. The future of competitive physical activity, of which we are protectors, can only be ensured if those participating understand the meaning of the activity. We cannot afford to leave this to chance.

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CHAPTER 9

# AMERICAN AND CANADIAN GIRLS' HIGH SCHOOL BASKETBALL PROGRAMS

ROY A. CLUMPNER

For the past seven years I have been a silent observer of Canadian sport, particularly in the west and especially at the high school level. As an American who has played and coached high school basketball in the United States, I found myself continually analyzing what I considered differences in the way both cultures approached the game. Last April I decided to attempt to obtain some concrete evidence to support my belief that there really were differences in the programs. Through a thirty-two item survey, coaches of the top twelve teams finishing in the single A and double AA British Columbia Provincial Tournaments and the top eight finishers in the single A, double AA and triple AAA Washington State Tournaments were queried. A surprisingly high percentage (70%) of the questionnaires were returned from both sides of the border. From the data received it appears that some basic differences do exist between British Columbia and Washington State in several aspects of girls' high school basketball. Whether these differences can be applied to the rest of Canada and the United States is, of course, impossible to say at this time.

*Coaches*

In both Washington and British Columbia, males dominated the coaching ranks. However, Washington registered a much higher percentage of female coaches (42%) than British Columbia (13%) which might be the result of the recent implementation of Title IX in the United States whereby an emphasis is placed on equal opportunity for all in hiring practices regardless of sex.

Eighty-two percent (82%) of the coaches from each country had updated themselves by attending at least one basketball clinic the past two years. Slight differences did exist on the average number of clinics these coaches attended with Washington coaches having a slight advantage in numbers.

FIGURE 1

*Number of Basketball Clinics Attended the Past Two Years*

| *British Columbia* | | | *Washington* | |
|---|---|---|---|---|
| 3 | (17.6%) | None | 3 | (17.6%) |
| 4 | (23.5%) | One | 1 | (5.8%) |
| 4 | (23.5%) | Two | 6 | (35.2%) |
| 1 | (5.8%) | Three | 3 | (17.6%) |
| 1 | (5.8%) | Four | 1 | (5.8%) |
| 1 | (5.8%) | Five | 0 | |
| 0 | | More than five | 3 | (17.6%) |
| *Number of Responses* | | | *Number of Responses* | |

Attempts were made through prioritization to determine personal coaching philosophies and objectives. Needless to say, these philosophies ranged greatly. However, it seems coaches from both countries generally felt skill development and the overall development of each girl's playing ability to be their major objectives with "Giving everyone an opportunity to play" and "Winning" on the other end of the scale in importance. However else this may be taken it seems to lay aside some of the beliefs that the "Win at all costs" ethic pervades our school systems, especially the American.

*Playing Season*

The length of the basketball season in British Columbia was much longer than its counterpart in Washington state. 4.3 months of the 1978-79 school year were preoccupied with practicing and playing games while in Washington State 3.6 months was the average for the same season. A probable cause of such differences lies in the fact that Washington schools were restricted as to the length of their season for both practices and games (November 1 to mid-March), while British Columbia had no such restrictions. British Columbia averaged 38.8 games played while Washington averaged 25.2. The difference here lies in the fact that Washington schools were restricted on the total number of games they could play per year by the Washington Interscholastic Athletic Association (twenty games plus post season tournament games: 25-27 maximum games) while the B.C. Secondary Schools' Girls' Basketball Association had no specific restrictions in this area (eight schools from B.C. reported contests ranging from 40-50).

During the week, Washington teams played an average of 2.07 games while British Columbia averaged 2.44. Interestingly, Washington games were played during the work week (Monday-Friday) while British Columbia schools played on all seven days of the week.

With slightly more than two days per week taken up with games, Washington teams on an average spent more days in practice (3.7) than the teams from British Columbia (2.26).

*Practice*

Time actually spent practicing was slightly higher in Washington (2.02 hours average) than in British Columbia (1.86) with slight differences existing between both as to what was emphasized in practices.

FIGURE 2

*Emphasis in Practice*

| *British Columbia* | | *Washington* |
|---|---|---|
| 27.3% | Individual skills, ball handling, shooting, etc. | 35.8% |
| 35.6% | 2 and 3 min. drills | 32.0 |
| 16.0% | Scrimmaging | 18.7 |
| 21.1% | Other | 13.5 |
| (Situations, conditioning game preparation, aggressiveness) | | (Situations, scouting report, patterns, conditioning) |

*Games*

During games, the American coaches seemed more concerned with keeping records than their Canadian counterparts. Eighty percent (80%) kept shot charts and all kept individual statistics such as turnovers, rebounds, etc., while 47% of the British Columbian coaches kept shot charts and 94% kept individual statistics.

*Game Administration*

Both groups reported a high percentage using managers during the season (91.1% Canada, 94.1% U.S.) and estimated the officiating of girls' high school basketball to be somewhere between poor-unprofessional and pretty good-improving. Both countries have certified officials who officiate their games although it is not unusual to see a

male varsity athlete or coach of another team in the school take over one of the official's duties if an official fails to appear.

Great differences existed between British Columbia and Washington in the staffing of the scorer's table during a game. In Washington state a great majority of the tables were staffed by adults, most notably teachers or parents, whereas in British Columbia students were the primary resource.

FIGURE 3

*Staffing of Scorer's Tables*

| *British Columbia* | | *Washington* |
|---|---|---|
| 0.0% | Teachers | 58.8% |
| 0.0% | Parents | 5.0% |
| 5.9% | Teachers/Parents | 11.8% |
| 0.0% | Teachers/Students | 11.8% |
| 94.1% | Students | 11.8% |

*Support Services*

To identify the amount of importance a province or state places upon a program is difficult. The only way to ascertain this is to look at the support services offered and compare the two. When asked whether their school administration supported their program, both groups were affirmative in this regard. Canadians were unanimous in declaring their administrations' support (100%), while Americans were not far behind (88%). It should be kept in mind, however, that all these teams were the select teams from each country which might have influenced such a positive belief in administrative support. It is questionable whether the same question asked to teams of the lowest caliber in both countries would result in the same findings.

While the specific type of support afforded by the administration was not spelled out in the open-ended questionnaire, a look at the financial support for the programs in the schools showed that at least in British Columbia, support was more in terms of moral backing rather than in the financial aspect. Approximately 48% of the funding for the program in the British Columbia schools surveyed came from the school district, while in Washington 95% came directly from the school district.

Interestingly enough, parental support of athletes also differed considerably between the two areas studied. Seventy-five percent (75%)

of the parents of Washington players turned out regularly to watch their daughters play while in British Columbia thirty-one percent (31%) of the parents attended regularly. This, of course, could be due to the numerous games played in British Columbia. On the other hand, does this mean that Washington State parents take a greater interest in their daughters' extra-curricular activities than parents from British Columbia?

In addition to gate receipts, a portion of funding for girls' basketball in Washington schools came from funds collected from each student to support all school activities (student activities fees). Through this fund, all sponsored student activities were ensured some supporting funds. British Columbia schools did have such a fee; however, in many schools little or no funding was released specifically to athletics. In addition, in many cases the fees collected from students were quite small in comparison to Washington schools. Again, however, the question arises, if little funding is released from this fee for athletics, then what role does athletics play in British Columbia schools. Is it an integrated part of education or is it on the outside?

Another area of support service which differed between the two areas studied pertained to the transportation of players to athletic contests. One-hundred percent (100%) of the schools surveyed in Washington state used school buses paid for by the school district to transport students to away games, with approximately 11% of the schools augmenting this with private vehicles driven by parents, teachers and students. In British Columbia approximately 47% of the schools used school buses as the primary method of transportation. The majority of the time, transportation for B.C. schools did not involve a school bus but rather private vehicles driven by the coach, parents, teachers and team members.

A difference also existed between British Columbia and Washington State with reference to support of coaches. All coaches in Washington state received extra pay for coaching girls' basketball ranging from $550.00 to $2,100 per season ($1,388.00 U.S. average). No Canadian coaches received monetary compensation. Of the seventeen Canadian respondents, only two were given an extra preparation period during the day with one other person being released from home-room supervision.

*Players*

British Columbia schools averaged 11.0 players on each team while Washington schools had a 13.7 average. Both indicated no real difficulty in getting girls out for their teams (88% British Columbia; 76% Washington) and generally players were looked up to by their peers in both regions.

Coaches were queried on the percent of players on their team that they felt were totally dedicated to becoming the best that they could become. While this is merely a subjective evaluation the results do give us some idea of how the coaches feel about their players. Washington coaches felt that over 66% of their players were totally dedicated with scores ranging from 2%-100% (two coaches reported the latter figure). British Columbian coaches approximated that 33% of their players were totally dedicated with scores ranging from 0-75%.

One area which might shed light on dedication was the question of drinking and smoking. When asked whether there was a problem with smoking or drinking on their team or on other teams they came in contact with, 76% of the Washington coaches and 52% of the British Columbia coaches felt no problem existed.

With respect to rules and regulations, a majority of schools in both countries have written rules or codes of conduct for athletes (British Columbia 16/17 schools; Washington 14 of 17). However, in British Columbia no provincial wide regulations have been set down and it is left up to each district's Athletic Association to determine policy. Therefore, differences exist from one region of the province to another. In Washington, a state-wide organization (WIAA) is responsible for statewide regulations (eligibility, games, district playoffs, etc.).

The final aspect considered in the study pertained to areas that needed the greatest improvement. No single aspect was singled out as the most important. Rather, responses were grouped around several items. Those areas which Canadian coaches tended to emphasize were the need for more funding, more competent officials equal to the boys' officials, spectator support and recognition, earlier skill development before students get to the secondary schools and better trained coaches.

In Washington, the main areas of concern centred around officiating, as a majority of respondents listed this area of concern. This was followed in importance by the need for more media coverage, improvement in programs at the elementary and junior high school levels and better coaching. With the exception of one respondent, funding was not mentioned.

CHAPTER 10

# SUPERSTITION IN SPORT

GRAHAM I. NEIL

Although a good deal of work has been done on general superstitions, very little serious study, until recently, has been made of superstitions in sport. How common are they among athletes? Why do they exist? How do they arise; what determines their particular nature and why do they persist? This paper attempts to provide tentative answers to these kinds of questions.

*Prevalence and Covertness*

The media, at times, would lead us to believe that all athletes and everyone else connected with sport is superstitious, but there are few statistics to support this. One might logically think that with man's ever increasing knowledge and raising of the average person's education, superstition would be disappearing. The evidence suggests rather that simply the nature of beliefs changes with the times (Gregory and Petrie, 1972). Gregory (1975) argues that her research has demonstrated that superstitions in general, particularly those in some classes including sports are better known and quite possibly more widely endorsed today than in the past. This is explained by the wide spread and rapid transmission of such beliefs through the media.

Superstitions certainly have been reported in the media and in research in most sports that one might name (Becher, 1975; Gregory and Petrie, 1972; Gmelch, 1972; Samuelsen, 1957). It is also apparent from an examination of some of these descriptions of superstitions that athletes often exhibit irrational, unfounded beliefs without recognizing them as superstitions. They often preface their remarks when asked about such behaviour, by saying that they are not superstitious, and they then proceed to describe their actions and beliefs which have no rational basis. One reason for the reluctance of athletes to admit their superstitions is that our society has cultural sanctions against

it. Such beliefs are "irrational" and "unscientific." Also one's superstitions are often hard to talk about because of their intensely personal nature. In fact, the very mention of superstition is taboo with some athletes. They subscribe to the belief that it is bad luck to even discuss their beliefs.

Among the few statistics available on the subject, Gregory and Petrie (1972) reported 35 percent of their intercollegiate athlete subjects openly admitting to holding superstitions and another 51 percent stating that although they held no such beliefs themselves, they knew of other athletes who did. All evidence suggests that superstitions are very common in sports.

*Classifications and Examples*

Superstitious practices have been grouped and classified in various ways. Gmelch (1972), an anthropologist writes of them as rituals, taboos and fetishes. As an example of a ritual, and an ex-major league baseball player himself, he reports:

> In hopes of maintaining a batting streak, I once ate fried chicken every day at 4:00 p.m., kept my eyes closed during the national anthem and changed sweatshirts at the end of the fourth inning each night for seven consecutive night until the streak ended. (p. 131)

Similarly, but perhaps less elaborate, rituals have been practiced by many if not all athletes and witnessed, often unknowingly, by their coaches. Pre-game and day-of-the-game rituals usually consist of ordinary behaviours being stylized and regimented or exaggerated until they take on ritualistic characteristics (Wamack, 1979).

Under the category of taboo, Gmelch indicates that mentioning that a no-hitter is in progress and crossing bats are the most widely observed in baseball. It is believed that if the pitcher hears the words "no-hitter," his spell will be broken and the no-hitter lost. A "shutout" in ice-hockey is seldom mentioned by those on the winning team for the same reason. Taboos are of many kinds, both of the traditional nature just mentioned and more personal ones which grow out of exceptionally poor performances.

Fetishes are standard equipment for many athletes. Ordinary objects: coins, medallions, pebbles, specific pieces of athletic equipment such as hockey sticks, bats, protective equipment and underwear acquire a magical power in a fashion similar to the formation of taboos and rituals. The player in a streak of good performance, scoring goals, hitting, pitching or otherwise winning, especially when he

has "all the breaks," credits some object, often a new possession, for his good fortune.

Becker (1975) sees sport superstitions classified into the groupings of (1) clothing, (2) manner of dressing, (3) numbers, (4) practices to prevent or cure injury, (5) equipment care and use, (6) practices before and during contests and (7) omens, premonitions and beliefs about the result of a contest. She goes on to suggest that the most common superstitions among athletes involves a particular article of "lucky" clothing be it a hat, a shirt or whatever. Athletes also avoid certain articles which they associate with bad luck. Borrowed or new clothing is also often blamed for disrupting an athlete's performance.

Regarding the manner of dressing, she points out that after a win many athletes attempt to repeat the order in which they dressed before that contest whether it be one side of the body before the other or some other bizare order.

Numbers have magical power for many athletes. Athletes often favour the numbers worn by admired professional athletes in their sport and some apply the number's significance to other aspects of their lives (Becker, 1975). Similarly, one can elaborate and give examples of each of Becker's categories.

*Why Superstitions in Sport?*

Why do athletes resort to this type of behaviour? Sociologists tell us that most superstitions can be traced to fears experienced individually or collectively and transmitted as part of experience. Fear of the unexplainable, unpredictable and destructive forces of man's environment give rise to superstitious beliefs and overt practices to ward off impending danger and bring good luck (Mallor and Lundeen, 1934). Superstitious behaviour, then, is most commonly involved where a high level of uncertainty and anxiety exists concerning the accomplishing of the desired ends. In the case of the athlete, although he may have the knowledge and skill to win the contest, he knows that there are a host of factors over which he has no control. In his uncertainty and anxiety over the outcome, his rituals, charms, fetishes and taboos give him a sense of assurance, or at least help him feel that he has done all that he can. Athletes practice magic to bring them good fortune, protect them in situations of danger and make sure that the "breaks" develop in their favour.

An apparent consequence of these practices is that they help to reduce tension and fear of failure, and give the player confidence (Wrigley, 1970). They give the athlete a feeling of partial control over

the outcome of events and cause him to experience less anxiety than he would if he did nothing (Becker, 1975). The higher the level of anxiety concerning the accomplishing of the desired ends, the greater the need. It may be that ritual, as one form of superstition, is ideally suited to promote a state of controlled excitement that allays anxiety and inspires confidence. The exaggeration and routinization inherent in ritual focusses the attention of the participant on the task at hand and prevents energies from being diverted to non-productive distractions (Wamack, 1979). In this sense, certain individual and group rituals would seem to have the potential for fulfilling the needs for relaxing the athlete and directing his attention to the appropriate stimuli. It may be something of a natural mechanism to help him cope with the situation and concentrate on the specific task at hand. A further function that it may also perform, as some authors and athletes suggest, is that it may contribute in some instances to team morale.

Magic may also be a rationalizing mechanism for defeat. A loss or miscue can be attributed to a ritual that was ignored or incorrectly performed, or to just not getting the breaks. Failure can always be attributed to bad luck or the unknowing omission of some seemingly irrelevant act.

*Origins and Persistance of Superstitions*

The answers to the questions as to the origins or sources of sports superstitions seem relatively straight forward, although not necessarily clear in each specific instance. Superstitions associated with a sport appear: (1) to be brought by the athletes with them from their main culture, (2) to be long-standing traditions of the sport, or (3) to be personally acquired eccentricities (Coffin, 1971). Superstitions regarding crossed sticks, the rabbit's foot or a black cat crossing one's path have been brought to sport from our main culture. A culture's superstitions are simply adapted to fit the sporting situations and then are passed on as part of the sport's subculture.

The acquiring of other, non-general-culture-based superstitions appears to follow fundamental laws of reinforcement of learning. They are essentially responses to prior records of success or failure. If one is performing so poorly that he cannot find any way of winning, he will probably keep trying different things and superstitions will be of little importance. Success, on the other hand leads to repetition of behaviour because it is associated with the former achievement. Athletes simply try to duplicate before and during the next contest everything they did leading up to and during the last successful

attempt. If one takes into account the partial reinforcement conditions under which these things occur, it is easy to understand why these responses and beliefs are persistent over time.

*Variations in Sport Superstition*

There are a number of ways that superstitions in sport vary and a host of factors which control them. The most obvious variation is in their number and nature from sport to sport. Sports wherein there is an excess of uncertainty and anxiety connected with performance seem the natural havens of superstitions. It has been suggested (Samuelsen, 1957) for instance that divers are the most superstitious among aquatic athletes. If one compares divers with swimmers, there would certainly seem to be more danger connected to diving, especially from higher boards and platforms. If the occurance of descriptions of superstitions in the popular sports literature is any indication, there certainly are an abundance in football, baseball, ice hockey, basketball, golf, boxing and horse racing as compared to other sports. There is evidence (Gregory and Petrie, 1975) also to suggest that the nature of superstitions varies from one sport to another with the nature of the activity concerned. Ice hockey players have an abundance of superstitions related to their equipment, basketball players to the ball and athletes in gymnastics and track and field connected to other things.

There is growing evidence also to suggest important differences in the prevalence of superstitions connected with various roles assumed within a sport. Although fielding in baseball seems to have few superstitions connected to it, they are numerous in hitting and pitching (Glemch, 1972). This is not surprising when one considers the average of 97.5 percent success rate in fielding compared to 24.5 percent success rate for hitters (batting average of major league players). Next to the pitcher or hitter, the fielder has little to worry about in the role and hense relatively little need for superstitions. Similarly, the goal tender in ice hockey (and perhaps other sports) appears in a privileged position regarding superstitions (Gregory and Petrie, 1975; Womack, 1979; Neil, 1981). As the last line of defence, his role is critical in determining the outcome of the contest and yet there are a host of factors influencing the effectiveness of his performance over which he has no control. As pucks come flying at him at up to 120 miles per hour, in situations where he cannot always see them, it is little wonder that he, more than his team mates, resorts to superstition.

In general it appears that women are more superstitious than men

(Gregory, 1972), but it is not clear whether this remains the case in sports. It may be that other variables such as length and level of involvement in a sport are more important than is the sex of the participant in determining his/her endorsement of superstitions.

Evidence is accumulating to suggest that the length and level of involvement of an athlete in a sport is an important determinant of his superstitions in connection with that activity. That is, there appear to be different levels of endorsement and different degrees of seriousness of belief in superstition as it affects performance in sports. It may vary from the mild enjoyment of a student's wearing of a particular article of clothing in order to play a good recreational game, to the frantic searching around the dressing room floor of the entire Brooklyn Dodgers baseball team hunting for a pitcher's "lucky safety pin."

Accepting that a large porportion of superstitions associated with athletes are cleared through the internal social structure operating within the various sports, Neil and his colleagues (1981) conducted a study wherein they found that endorsements of superstitions associated with a sport increase with involvement in that sport; involvement defined as length of contact with the activity and level of perceived importance of that involvement. Hence, professional or high level athletes who have been involved in a sport for some time and to whom the sport means a great deal are expected to exhibit more superstitions related to that activity than athletes at lower levels and more casually involved. In the same sense, superstitions appear to play a much more important role in important games as compared to regular games or practices (Womack, 1979). The level of exposure to the subculture of the sport and the perceived importance and consequent anxiety associated with competition seem to be very important in determining the level of endorsement of superstition.

*Conclusion*

Superstition in sport is a wide spread and interesting phenomenon. Social science has only begun to find answers to some of its intriguing questions. It occurs, persists and varies according to a relatively consistant pattern. Perhaps most importantly for physical educators and coaches, it appears, in some instances at least, to serve a useful purpose for the athlete. It is not that superstitions should be encouraged, but perhaps they should not necessarily, out-of-hand, be discouraged either. For some athletes they may serve a very useful purpose.

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CHAPTER 11

# DANCE FOR BOYS

DAVID DOCHERTY

*Introduction*

When boys crawl out of a session, bathed in perspiration, then the point is conceded by most men that the session has been a good one. On the whole, people think that strong, powerful action is manly, and in view of this prevailing attitude in our society, it seems sensible and strategic to use situations in which strenuous activity is involved as a starting point for any new work in movement with boys (Carroll and Lofthouse, 1969:14).

Many teachers avoid teaching dance/movement because they feel boys will generally react unfavourably to the experience. Dance, unfortunately, does convey "non-masculine" behaviours in the perceptions of many young boys and they, therefore, approach such experiences with considerable apprehension. With greater media coverage and the strong male image presented by such dancers as Mikhail Baryshnikov, the connotation of "dance being the domain of girls" is slowly eroding. Teachers of dance and especially dance for boys can do a great deal to show that dance is as physically demanding and enjoyable as other forms of movement. Many teachers have been successful in presenting dance experiences to boys and are often surprised with the positive response, creativity, and quality of work produced by boys who become enthused with the dance experience. The critical factors are really the type of activities presented and the manner of presentation.

There are many ways of organizing dance experiences. I have found the analysis of Rudolf Laban (1963) to be particularly effective in selecting specific experiences and providing an overview of the content of dance/movement. Regardless of the theoretical framework, however, the *initial* dance/movement sessions with boys should involve the following criteria:

1. *Structured Tasks.* Appealing to creativity in the early stages can lead to moments of inactivity that can be disconcerting for the inexperienced teacher. In addition it is difficult to create without some form of input or awareness of what possibilities exist. Early movement tasks should be specific or direct (e.g., step eight times) but allow some modification and flexibility within the structure (e.g., weave in and out). Alternatively, the teacher can show two or three possible responses (e.g., ways of falling), ask the class to contribute another way, and finally select one method to incorporate into their own movement pattern. Choosing from a list of several possible responses provides some security for the more self-conscious individuals.

2. *Control and Quality in Fundamental Movements.* The teacher should place high expectations on the quality and control of movement. Placing importance on high jumps, controlled turns, clean line and shape, gives movement significance in and of itself. There is a misconception in dance/movement that it is a success-oriented approach and that every response is acceptable regardless of its quality or degree of difficulty. Tasks or movement problems should be set that are within the capabilities of the students but demand some form of physical and/or mental commitment. The movement can quickly become trivial and lose significance if the teacher does not set high expectations on the product that should result from the process. The process is important but the tendency has been to provide experiences for children which can detract from the feeling of accomplishment and achievement. Even in an exploratory approach the first attempt should seldom be accepted but students encouraged to do a little better.

3. *Dynamic and Vigorous Activity.* The pace of the lesson should be intense, sacrificing perfection in the early stages of development. Maintaining an intense pace provides for a physically demanding lesson and prevents the apprehensive "performer" from dwelling on what other people are thinking about them or having time to be overly concerned with observing other students. There needs to be a compromise therefore, between the quality of the product and the pace of the activities. When interest and enthusiasm begin to wane it is usually a sign to introduce a new task regardless of the quality or control achieved at that time. Quality and control can always be developed in review or at a later date.

4. *Physically Challenging Movements*. Teachers should try to incorporate tasks or skills as part of a sequence which are physically difficult and test the more able student. The skills for different sequences can be drawn from either gymnastics or dance and may compose only one fourth or fifth of a more general movement sequence. It is important, however, that the skill need not be executed absolutely correctly for the continuation of the sequence, so the less able children do not feel excluded. Setting a very specific skill, however, is challenging to most students and something children should have to practise in order to perfect. The teaching progressions and spotting techniques of non-apparatus gymnastic skills are presented by Carr (1980; 1981) and the Level I Manual of C.G.F. (1977). Specific dance skills can be found in Lockhard and Rease (1966) and Sherbon (1975) or adapted from dance classes (modern or jazz) to the capacities and needs of children.

5. *Maintain Interest and Enthusiasm*. Interest in most physical education activities will wane and dance/movement is not an answer to all children's movement needs. Teachers can, however, maintain interest levels by modifying tasks and surreptitious introduction of partner/group work and music. Repetition is necessary for skill development, refinement, and perfection. The challenge is to provide the necessary repetition but maintain interest through reapplication of the task. Using Laban's analysis of movement (Laban, 1963) can provide enrichment of the basic skills and actions of dance. Repeating skills and actions with changes in quality, spatial directions, emphasizing body parts leading, lowering onto different bases of support, showing definite shapes in jumps, and working with other people in a variety of ways provides for variety as well as repetition.

6. *Allow for the Development of Specific Sequences*. Each lesson should end with a definite movement sequence which may or may not fit with music. If the lesson does have an exploratory methodology, encourage the children to find two or three definite actions, positions, shapes, etc. that they are able to repeat rather than a succession of improvisations that they do not retain. Improvisations for young children, expecially if allowed to continue too long, can produce vague, ill-defined movement that has a tendency to lack meaning or significance. The teacher should, however, encourage the children to improvise if they forget a particular movement rather than abandoning the whole sequence. It is also possible to present a series of move-

ment sequences over several lessons that can effectively fit together into a longer and more complex "dance" or "dance-drama."

7. *Provide Opportunity for Creativity.* Opportunity for creativity should be systematically provided by the teacher. Assuming that children will suddenly be creative because they have a movement vocabulary is erroneous. In fact, children can become dependent upon direction from the teacher when tasks are overly structured. Simply allowing children to reorganize the order of the tasks may be an initial experience in the creative process. Choosing from three alternatives, adding an ending, finding another way (e.g., of supporting the body weight) are simple weaning processes that help children develop the ability and confidence to create their own sequences and ideas.

*Sequence Development*

Movement generally needs a framework or structure. The framework for dance with younger children (K-3) is often provided by stories, nursery rhymes, poetry, and music (Boorman, 1969; 1971; 1973). Some teachers have successfully taken curriculum materials such as the three states of matter, the life of a butterfly, vertebrate and invertebrate animals, and circulation to provide structure and imagery for movement. Linking "action-words" is generally an effective way to introduce dance/movement to older children (grades 4-7) and especially boys. Imposing a mood or "story-line" can be superimposed once the movement has been well accomplished and clearly sequenced. In presenting the components of a sequence it is important to develop the control and execution of each segment. The following provides an example of sequence development in the dance/movement class.

*Sequence I:* Run, stop, peep, step, compress, jump ("death scene").

| | *Action Word* | *Development* |
|---|---|---|
| 1. | Run | Travel lightly to 8 counts. Intersperse a jump into the run on the 4th count. The jump should be from two feet to land on one. Move in new direction after landing from the jump. |
| 2. | Stop | The stop should be held in definite position for best balance (feet apart, knees slightly bent, hips over feet and shoulders over hips, i.e., good alignment). |
| 3. | Peep | Develop 2 held positions using the hands to hide behind. Ensure good change of body position. |

| | | |
|---|---|---|
| 4. | Step | Step 3 times using slow low turns maintaining hand position. Include changes of level. |
| 5. | Compress and Jump | Compression facilitates the jump. The jump should be led with a "head-throw" over one shoulder which results in a ¼-½ turn. Land lightly and run immediately on contact with the ground. |
| 6. | "Death Scene" | Repeat the entire sequence but after the jump provide 8 counts for a "death-scene" in which the children dramatically collapse to the ground. |

Especially during the initial experiences, the teacher should provide the tempo of the actions and pre-cue appropriate directions. Tempo can be provided by voice, finger-clicking, or percussion instrument. Using the voice and finger clicks the above sequence would sound like:

*And* run 2, 3, and jump 5, 6, 7, and stop, first position (click), second position (click) and step turn, 2 and 3, compress and jump, run 2, 3, and jump... compress and jump, collapse 2, 3, 4, 5, 6, 7 and 8.

*Conclusion*

The initial dance experiences for boys should be structured and task-oriented, demand physical control and co-ordination, involve dynamic and vigorous activity, challenge the skill and ability of the most accomplished, provide variety but stress repetition towards perfection, develop specific sequences of movements, and gradually expose the student to the creative process. Incorporation of such criteria into the planning of dance/movement experiences for boys should help dispel the apprehension and preconceived perceptions associated with dance and the male image. That is not to say boys should not be exposed to lyrical movement or movement that lacks the vigour of actions such as jumps, falls, and rolls. But boys should feel comfortable with their initial experiences which will allow them to develop a positive attitude towards dance. It is up to the teacher to select activities that appeal to boys and present them in such a manner that challenges their skill and physical capacities.

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CHAPTER 12

# WHAT CONSTITUTES THE AESTHETIC IN SPORT AND DANCE?

ROSE HILL

A. H. Mace claims that when man has reached a certain stage in social and industrial organizations which "enable the individual to sustain life without exercising his capacities to the full for the production of the means of life, he does not just allow these capacities to atrophy from disuse but continues to exercise them for their own sake, as a form a enjoyable game." Referring to art, Harold Osborne claims that the enjoyment of the aesthetic experience, the cultivation of aesthetic sensibility and the training of the capacity to appreciate fine works of art become valuable for their own sake with no need for justification from extrinsic benefits.

Both sport and dance, according to these theories may therefore be considered as self-rewarding activities indulged in for their own sake and just for the enjoyment that they bring to the participant, whether as an observer or as a performer or player. There is general recognition that theatre dance, ballet and modern, are choreographed and performed for the enjoyment, the aesthetic pleasure that they give to the viewer and often to the performer. Athletes recognize the same joy in the doing, when everything comes together and a perfect move results. Spectators recognize the perfect shot or the superb dive and often liken their most admired sportsman to an artist, as if in some way this sets him apart from his peers. But these are spin offs, brushed aside by many who regard them as not integral to sport, where the purpose is to win.

In dance education, there is a growing acceptance that the training of aesthetic enjoyment and sensitivity provides a rationale for the teaching of dance in schools. The teaching of sport for similar reasons tends to be dismissed by a large number of physical educators as irrelevant. Sport is competition, competition is winning, therefore, all sport involvement is concerned with the end product, the score, the

victory, the award. Undoubtedly, man has invented sport as a means of testing his prowess within the framework of a contest. All his striving and skill mastery is directed toward victory, but the striving, the skill mastery itself and the enjoyment which is a part of that strife has tremendous implications in terms of perceptual or aesthetic enjoyment. It is in the beauty of the human form in action, in the patterning and design of the players in the contest striving for perfection that the potential for its enjoyment exists.

A study of man, historically and culturally, shows that dance and sport have been part of his life style in every culture and society. The forms and styles are different and are, of course, illustrative of the widely different ideas and beliefs about the world which different societies have held, but present day man's need for sport and dance seems as intense and participation in it as satisfying to him as to his predessessors.

Mace and Osborne both suggest that in our present world, we continue to be involved in games and art because both are self-rewarding activities or put more simply, because we enjoy them, they give us perceptual pleasure. This perceptual pleasure is particularly potent in sport and dance because our entire mechanism, mind and body is involved in the activities. What may be an explanation for such involvement?

Man comes to terms with the environment through his senses. Perceptual and cognitive mechanisms bring form, shape, rhythm and design so that the world outside himself is integrated into his inner world. The outside environment is designed into manageable forms by the perceptual mechanisms, then processed and stored in the brain in the form of images and concepts. They in their turn can be reorganized into language and actions. This process of integrating the outer and independent world into man's inner world, so that he can achieve mastery over his environment, is a constant process in order for him to maintain life. But man appears to be so constituted that existence alone does not satisfy him; he must enjoy that existence. Perceptual and cognitive mechanisms are able, when stimulated in certain ways, to produce feelings of enjoyment and satisfaction. In order to achieve this enjoyment and to assist the integration of his two worlds, man gains enjoyment through recreating the shapes, patterns and designs of the outer environment into manmade tangible forms through which he shares ideas and beliefs which have been born from these perceptions. He paints pictures, he composes songs, he choreographs dances. Similarly, he borrows body actions, which in other

societies, guaranteed his continued existence and reorganizes them into games of skill. Forms and patterns of movement are reformed and repatterned to test his physical skills against the environment or against other men. Perhaps because physical action involves kinaesthetic perception, other people join in or watch these songs and dances, they look at the pictures and play the games because they find them enjoyable.

I have said earlier that giving aesthetic enjoyment in dance is recognized as one of the purposes of the choreographer and therefore the dance educator has a responsibility in dance classes to educate students so that they enjoy dance performances. I also want to suggest and give reasons for the suggestion that all sport forms, obviously some more than others, possess the same components of line and form, including that of the human body in action and therefore possess a similar potential for enjoyment. Dance and sport in many ways are strikingly similar in spite of the obvious differences in motivation and purpose.

Consider the physical prowess demanded of the professional dancer and the professional athlete. Both must learn a high level of technical skill only possible through long term commitment and self-discipline. Daily unremitting practice and fitness are essential for both. The resulting effortless efficiency in movement, the pattern, rhythmic harmony and structured design and purity of body line brought about by what Arnold Toynbee has called "the beauty of the human figure at full stretch," holds the potential for that perceptual pleasure or aesthetic appreciation we have just discussed, whether the action occurs in the theatre or on the football field. The forms and designs created in both sport and dance arising from interrelationships formed by groups of people with the same focus and intent may occur for different reasons; the choreographer employs all the skill at his command to create the designs. In sport, they may be haphazard and spontaneous, but they are there and the discerning viewer or performer gains enjoyment from them. Each is equally capable of giving perceptual satisfaction.

David Best, in an excellent article, "The Aesthetic in Sport" comments that certain sports, like certain dance forms, are more centrally of aesthetic interest than others. He continues to explain the different objectives and expectancies of different sports, suggesting that in some, the aesthetic enjoyment may appear coincidental. But he also makes the point that the aesthetic is a concept and that with education, any object or activity can be viewed in this manner. In a

society which, in sport demands victory as a criterion of enjoyment, T.V. slow motion replays have shown the viewing public the potential for viewing sport aesthetically. When the stress of the competitive element is removed, and the viewer is given the opportunity to concentrate on the form that the athlete's skill portrays, the design created by the plays and the statisfying unity experiences visually and kinaesthetically, it is obvious that any sport contains the elements necessary for providing perceptual pleasure. The enormous popularity of gymnastics, figure skating and folk dance competitions shows that we all enjoy and appreciate excellence in performance. What a recognition of the aesthetic in sport as well as in dance and a study of aesthetics and its application to sport can do is to educate and increase that recognition. What might be called an aesthetic readiness should be part of the equipment of any physical educator. The ability to recognize and enjoy beauty in both sport and dance and to understand the reasons for the perceptual enjoyment it engenders is as important to the athlete as to the dancer.

In a society like ours where winning is the only thing, where violence and rule violations are applauded and losing a game is such a disgrace that the perfectly executed goal which failed to bring the victory is in danger of not even being recognized, the exquisite perceptual pleasure of such artistry may at best be minimized and at worst, not even experiences. Such a loss becomes a real tragedy. Education in aesthetic enjoyment, learning to be open and receptive, able to appreciate these highs of perceptual pleasure, provides avenues of enjoyment which are not dependent on any outcome. Their values, like climbing Everest, are because they are there. Our present society indoctrinates us all to believe that winning is the only thing. Through sport as well as dance, it is possible to gain an understanding of aesthetic perception and to experience that "aesthetic high" which comes from the beauty of the performance and is completely independent of the outcome.

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CHAPTER 13

# THE BUDGETARY PROCESS: A CYBERNETIC PERSPECTIVE

T. R. HAGGERTY

One of the most important functions of an administrator is budgeting. The budgetary process is specifically concerned with decisions of allocating scarce resources to competing system and environmental needs. The budgetary process is especially important since the outcomes of this activity affect all other aspects of the system, for, in the final analysis, many decisions are really budget decisions. For example, decisions regarding the scope of recreational programs offered, the quality and quantity of coaches and support staff in an athletic program, the provision of adequate sports facilities, the pupil: teacher ratio in physical education classes, the content of some programs, and the ability to survive are largely determined by budgetary considerations.

Due to the importance of budgeting, sports administrators may well ask, "What is the best way to manage the budgetary process?" There are of course many writers who are convinced they have the right solution. Some have said, "Program Planning Budgeting Systems (PPBS) is the manner in which budgeting should proceed—to do otherwise is not rational." Others expound Zero Base Budgeting (ZBB) or the numerous modifications of these rational-comprehensive approaches as the best way to structure the budgetary process. It is difficult to argue against the logic of these processes—but many practicing administrators tend to prefer approaches that favour a more incremental approach to budget allocations.

The present paper introduced the cybernetic concept of "variety," discussed prominent concepts from budgeting, decision making and policy analysis and concluded with a model that attempts to assist administrators in deciding the budgetary process to employ in their organization.

*Cybernetics*

Cybernetics is "the science of control and communication in the animal and the machine" (Wiener, 1953). A major concept in cybernetics is *variety*—which is closely associated with our understanding of the term *complexity*. The variety of anything is the number of distinguishable elements it has. Although it may appear that quantity is the main determinant of variety it is not, rather the number of different states that occur.

If one system is to control another, the relative variety of each is a major concern, Ashby (1956) formulated the law of requisite variety, which states that for one system to control another system it must have at least as much variety as the system it is to control. There are two ways for the controller system to achieve requisite variety.

1. increase the variety of the controller
2. decrease the variety of the system to be controlled.

To illustrate this concept consider the following examples:

1. A home thermostat with only a few settings (i.e., 15°C, 25°C, 33°C) cannot effectively control the temperature of a room if we want it to be 18°C, 20°C, or any temperature other than the ones specified. The controller system does not have requisite variety to the system it is trying to control.

The author views variety as a major independent variable in determining the budgetary process that *is* used in organizations as well as specifying the process that *should* be used.

*A Normative Model of the Budgetary Process*

The question often asked by administrators is, "What approach *should I* use for budgeting?" There is of course no one "best" way to structure budgeting. The author advocates a contingency approach that adheres to the principles of the law of requisite variety. In other words, the budgetary approach that *should* be used will vary from organization to organization and is largely dependent on the relative level of the variety of the management system as compared to the situations.

This statement likely appears obvious, however, there are numerous examples of organizations that do not fully understand the concept of requisite variety and attempt to "bite off more than they can chew."

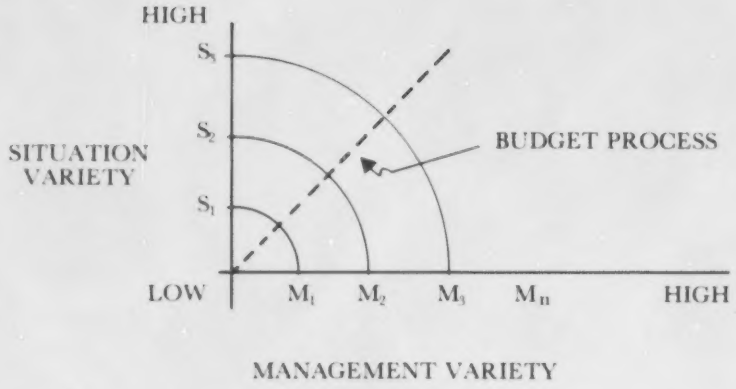


FIGURE 7

*A Normative Model of the Budgetary Process*

Kochean (1980) in his paper "Coping With Complexity" noted that the complexity of the situation should dictate the decision process used.

The author's position is similar to Kochean's but extends his theory to better fit the law of requisite variety. Accordingly, it is felt that *the optimal level of precision required in a budgetary decision process is not only dependent on the task situation but also on the variety of the management system which is to control the task situation*. These ideas are represented in Figure 7.

In Figure 7, the horizontal axis represents the variety of the management system (Vm) that is responsible for the budgetary process, while the vertical axis represents the variety of the situation (Vs) that requires control. The budgetary process that should be used is represented by the line through the origin.

If the variety of the management system is at $M_1$, then only budget situations with less variety than $S_1$ can be managed effectively. If the variety of the management system is at $M_1$ and the variety of the situation is greater than $S_1$, say $S_3$, then, requisite variety does not exist, and effective control will not take place. In such cases, the variety of the situation must be reduced and/or the variety of the

management system increased until $V \leq V_m$ then, and only then will the budgetary process be effective. One should note that when the variety of the management system is greater than that of the situation, the budgetary process used can be effective but not necessarily efficient since there likely exists a level of administrative "overkill." While excess variety is beneficial, especially when a crisis occurs, it represents an extra cost that management must consider carefully.

If we pursue the line of reasoning advocated in the model, the obvious question arises, "How can we determine the level of variety in the management system and the situation in order to make the necessary adjustments to achieve requisite variety?" The author is currently attempting to address this crucial problem in the hopes of establishing a prescriptive tool for budget administrators.

CHAPTER 14

# COMPARATIVE CANADIAN-AMERICAN RESEARCH GRANTSMANSHIP AND LEGAL RESPONSIBILITY

DICK MORIARTY, GERRY GLASSFORD
and ROGER GAUTHIER

The presentation compares the state of the art and research grant opportunities in Canada and the United States. The CAHPER Research Council monograph, *Grantsmanship I* (1980) and *Grantsmanship II: Reading from Canadian American Research Administrators* (1981), address relevant questions such as: (1) How to find out about grants and who gives them: basic sources of information; (2) sources of grants and contracts (government, foundation, business and industry); (3) how to overcome the negative feelings about grantsmanship; (4) understanding what motivates granting officials and criteria for selection; (5) how to apply for a grant: what to do before you apply and how to write the proposal; (6) how grants are awarded; and (7) grantsmanship as a continuing process.

The purpose of these is to share ideas and to reinforce some basic principles that we all understand but do not always apply in seeking grants. Topical headings to be dealt with include:

Grant vs contractors (government, foundations, and business);

The value of a proposal (formulating a research question);

Types of proposals (letter, prospectives, and proposal);

Criteria for evaluating proposals (peer and/or staff evaluation);

Locating funding agencies (personal contact and written research);

Assessing funding agencies (mission of the funding agency);

Budget (seed money and continuing support).

The ability to attract outside money through grants and contracts is becoming more and more a desired trait as funds for higher education become increasingly competitive. In many instances the amount of grant and contract money distinguishes poor to excellent depart-

ments and in many universities establishes a "pecking order" among budgetary units.

Not only are departments judged on the basis of outside grant and contract monies, but individual faculty members are often promoted on the basis of their ability to attract outside funds. In many instances there are being drawn correlations between the quality of a professor's work and the amount of grant money attracted. This correlation is based upon the concept that grants are funded based on a peer evaluation system and this should be considered equal to peer reviewed articles (D. W. Edington, 1980).

The Canadian-American constraints on funds for higher education in general and research funding foundations in particular, mitigate for increased astuteness on the part of study / research enthusiasts who will have to adhere more stringently to the basic SIR / CAR tenets of raising research funds:

1. Individuals and groups cannot secure grants if they do not apply.
2. Research grants are not awarded primarily on Pulitzer Prize rhetoric proposals or research design and statistical exercises but rather the relevance of the research to either practical problems or evolving theory.
3. Research organizations are just that—organizations subject to the same stresses and strains as other social institutions. In an era of accountability both hard and soft sciences should address themselves to projects with a high probability of immediate or intermediate payoff and / or significant areas being overlooked.
4. All things being equal, task force proposals will obliterate individual proposals (particularly in Frontier Action Research or social science endeavours).
5. All things being equal, non-profit voluntary research foundations, institutions or collegiums will be selected for specific projects over non-voluntary or profit research foundations and institutions, since accountability is being stressed and the cost / benefit is better in the voluntary mutual benefit service organization.
6. Topics to be studied can be found on the front pages of any local, national, or international paper, or in radio or TV lead stories. The same social stresses which confront society are confronting social science research institutions. In an era of economic decline endowment funds are being devastated. Research Foundations find themselves dealing with the marginal dollar and a

limited amount of opportunity cost. There is a tendency to deal with immediate and intermediate socially significant problems, as well as areas in which there is a likely breakthrough from a theoretical point of view. Research organizations are very conscious of the opportunity cost of each project that they commission.

7. When Ford Foundation suggests that energy is a problem or Canada Council decides that a high percentage of its resources will go into exploration studies, rest assured that university researchers and adminstrators will spontaneously perceive these areas as attractive and relevant.
8. Do a mini-study (or at the very least a pilot project) and then write the proposal to secure a grant for a more thorough study. The complexity of task force research requires increased brainstorming by the group on conceptualization of the project and partial operationalization and experience in methodology prior to submitting a proposal for scarce resource funds. This is particularly essential as contract research comes more in vogue and research institutes or collegiums are forced to be more flexible and refashion both their human and physical resources.
9. Develop the project to fit the funds. The argument that research cannot be conducted because research funds are not available is, in many instances, a cop-out. Teaching, coaching, administration and professional service are frequently carried on in less than an ideal situation. Most human endeavours are initiated on the proverbial "shoestring." There are many resources (people, place, program and purpose) available to initiate research projects. Success breeds success, and if a study can be initiated in embryo form, worthwhile study will attract research funds.
10. It is frequently advisable to cost account in terms of minimum, medium, and maximum costs. When projects must be cut back, they can be reduced by (a) becoming more specific or (b) remaining as general, but probing in less detail. A rule of thumb would be that exploratory studies should be general in nature in order to identify fruitful areas of specific study.

*Research and Legal Liability*

A comparison of Canadian and American professional aspects and legal responsbility in the area of research are presented in *Grantsman-*

*ship I & II* published by the CAHPER Research Council (1980 and 1981). The standards for committees on human ethics, biosafety, and animal care are compared and contrasted. The legal liability of researchers and their sponsoring organizations *vis-à-vis* subjects is discussed as they relate to the hard sciences, social sciences, and humanities. Cases of litigation and their causes are cited to show the relationship which exists between variables such as age and demand of care, degree of risk and duty of supervision, quality and amount of supervision, awareness of risk and liability, informed consent, approved general practice in supervision, foreseeable risk and need for supervision, and previous acts and incidents of vigilance.

The objective of this section is to alert those involved in research in the area of physical and health education and/or recreation and sport of the present or predicted risk of legal litigation. Although the classroom physical educator and sports/athletic coach are very conscious of the risk of being sued, in general, researchers are oblivious to the possibility of being sued for malfeasance or misfeasance. Societal trends, initially in America and more recently in Canada, demanding openness and informed consent increase the risk of litigation and demand new policies and procedures in the relationship between researchers and their subjects.

Investigators are requested to consider the following items for inclusion in an Informed Consent Form as appropriate to the particular project:

1. A general statement of the background of the project and the project objectives.
2. A fair explanation of the procedures to be followed and their purposes, identification of any procedures which are experimental, and description of any and all risks attendant to the procedures.
3. A description of any benefits reasonably to be expected and, in the case of treatment, disclosure of any appropriate alternative procedures that might be advantageous for the subject.
4. An offer to answer any queries of the subject concerning procedures or other aspects of the project.
5. An instruction that the subject is free to withdraw consent and to discontinue articipation in the project or activity at any time without prejudice to the subject.
6. An instruction that, in the case of questionnaires and interviews, the subject is free to deny answer to specific items or questions.
7. An instruction that, if services or treatment are involved in the

setting or context of the project, neither will be enhances nor diminished as a result of the subject decision to volunteer or not to volunteer participation in the project.

8. An explanation of the procedures to be taken to insure the confidentiality of the data and information to be derived from the subject. If subjects are to be identified by name in the manuscript, permission for same should be included in the Informed Consent Form or obtained in writing at a later date.

If the subject is to be videotaped or photographed in any manner, this must be disclosed in the Informed Consent Form. The subject must be advised as to who will have custody of such videotapes or photographs are to be used, and what will be done with them when the study is completed.

The informed consent document must not contain any exculpatory language or any other waiver of legal rights releasing, or appearing to release, an investigator, project director, or institution from liability. At the bottom of the form, provision should be made for the signature of the subject (and date signed) and/or a legally authorized representative. It is generally advisable to precede this with a statement to the effect that the subject and/or representative have read the statement and do understand. In the case of minors, one or both parents should sign as appropriate. For minors of sufficient maturity, signatures should be obtained from the subject and the parent(s) (*Medicine and Science in Sport*, 1979).

Researchers and research organizations must reanalyze the variables in law: age, nature of study/research, amount of instruction to subjects by researchers, general awareness of risk, approved incidents in similar situations. The rules of thumb presented for liability are: (1) there is a negative correlation between age and demand of care, (2) there is a positive correlation between degree of risk and duty of supervision, (3) there is a negative correlation between quality of subjects and the amount of instruction or supervision required, (4) there is a negative correlation between awareness of risk and liability, and informed consent, (5) there is a positive correlation between foreseeable risk and the need for supervision, (6) there is a positive correlation between previous acts and incidents of vigilance required by researchers.

Legal cases involving researchers are cited and precedent-setting judgments presented.

CHAPTER 15

# PROFESSIONAL DEVELOPMENT FOR PHYSICAL EDUCATORS: TWO PARAMETERS FOR CHANGE

IAN ANDREWS

*Introduction*

The idea of daily physical education, as positive as it may be to physical educators, nevertheless intensifies the need for quality professional development programs for all teachers. Physical education teachers realize that curriculum innovations in physical education are usually only implemented when assistance and support from colleagues and advisors are available. Leaders in physical education must attend to this situation. Otherwise the physical educator in the school may choose to ignore and evade the implementation of new curriculum and instructional methodologies. Not only would the profession of physical education suffer immense setbacks but most important the pupils in our schools would lose the valuable experiences that quality physical education may afford.

In this paper I intend to examine briefly two education paramenters that can greatly influence the intrinsic virtues of professional development for teachers. One area is the field of curriculum development and implementation. The second field is the supervisory process known as clinical supervision.

*Curriculum Development and Implementation*

Curriculum specialists such as physical educators are required to assimilate, develop, translate and apply curriculum ideas within the craftmanship of their profession. "Their responsibilities extend from the shaping of education policy bearing on the aims and content of educational programs to work dealing with the design of specific elements with particular education programs" (Eisner, 1979). Curriculum development skills are acquired by physical educators through a multitude of experiences. Formalized program options in the form

of credit or non-credit workshops offered at university campus or school district locations usually afford these learning opportunities. However individualized professional experiences in the classroom, generated by the immediate desires, needs and expectations of the pupils, may afford other and possibly more practical learning opportunities.

Theoretical knowledge acquired through pre-service and in-service training will assist the physical educator to determine and translate the curriculum requirements of the classroom situation. However if the curriculum is to be meaningfully developed and implemented a teaching-learning situation involving teachers and pupils must become the focus for this intended transformation (Skilbeck, 1975). A situational analysis involving critical assessment and reflection must become inherent in the physical educator's daily or weekly instructional experience. Michael Fullan has suggested that there are three types of changes that can be specified hypothetically within curriculum implementation. They are changes in materials, changes in behaviour and changes in belief (Fullan, 1980). Indeed the complexity of curriculum development and implementation is most extensive. It would appear that teachers, school district staff and university instructors must examine how their specific individual abilities and resources might collectively enhance the challenge of implementing these changes in the physical education curriculum. Fullan's model simplifies the issue with this view of the curriculum implementation process.

Proposing ideas for the interaction of the change in curriculum with the "Implementation" components are crucial for all leaders in physical education to consider if quality learning experiences are to be realized in the classroom.

Highlighting the literature in curriculum implementation and change are two major contributors, Ray Bolam of Bristol, England and Bruce Joyce of Palo Alto, California. Essentially their research emphasizes what elements are important in the implementation stage of educational change. Bolam's thesis provides a conceptual framework on the management of educational change. Interactions among the change agent, the innovation and the user are operative in a change agent system that is categorized into typologies of innovation strategies with knowledge diffusion and utilization processes (Bolam, 1975). This open systems model is a paradigm that allows for educational change agents to implement collaboratively an innovation, such as a new curriculum, with teachers while ensuring that

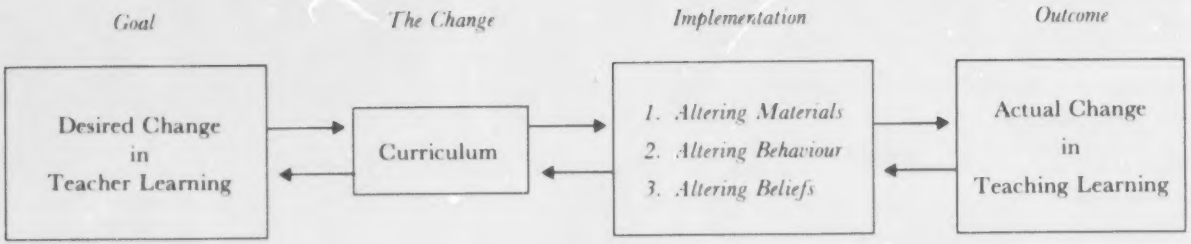
Goal
The Change
Implementation
Outcome
Desired Change in Teacher Learning
Curriculum
1. Altering Materials
2. Altering Behaviour
3. Altering Beliefs
Actual Change in Teaching Learning

FIGURE 1

all participants understand the common tasks and procedures identified with this change.

Joyce's research has led him to propose a paradigm of implementation that includes theory, demonstration, practice, feedback and classroom application (Joyce and Showers, 1980). He posits that teachers can acquire new skills that fine tune their competence but also suggests that teachers need certain conditions to ensure their professional learning will actually be enhanced. Analyzing more than two hundred studies Joyce maintains that various forms of instruction have differing impact upon changing teaching behaviour. Essentially the presentation of theory, modelling or demonstration, practised under simulated conditions and structured feedback only translates into a high level of impact if coaching for application also takes place. Coaching can be provided by peers, supervisors, professors and curriculum consultants. However, to ensure effective change the classroom must be the environment for this fifth and important stage of implementation.

Both of these educators are implying that an action perspective is needed if curriculum innovation is to become a reality for the schools. To foster this interaction among change agents and users or "coaches" and teachers it is important that communication processes encompass the inservice component of the implementation program. The other section of this paper examines the supervisory paramenter that must complement the curriculum development and implementation consideration.

*Supervision Methods and Professional Development*

Although it may appear over simplistic, I view curriculum development and implementation as a creative problem solving process. It is a process of communication that encourages educators to generate collaboratively a creative yet effective learning environment for change. "Humans are social creatures... (with) relationships maintained, threatened and revised through communication" (Runkel, 1980, p. 14). Hence it is important that supervisory methods of communication and instruction are integral components of curriculum implementation.

Much has been written on clinical supervision models since these concepts were introduced by such people as Goldhammer and Cogan in the late sixties, and early seventies. The intrinsic spirit of supervision is intended to facilitate humane inquiry, analysis, examination and evaluation of an instructional experience. "Supervision is in-

tended to increase teachers' incentives and skills for self supervision and for supervising their professional colleagues" (Goldhammer, 1969, p. 55).

Acheson and Gall have simplified the clinical supervisory process into three general phases: one, a planning conference before the instructional sequence; two, an observation of instruction; and three, a feedback conference (Acheson and Gall, 1980). Four goals inherent within this supervisory process that foster quality instruction are:

1. to provide teachers with objective feedback on the current state of their instruction,
2. to diagnose and solve instructional problems,
3. to help teachers develop skill in using new instructional strategies,
4. to help teachers develop a positive attitude about continuous professional development.

Teachers who are competent in this process become confident in their abilities to undertake new challenges in implementing new methodologies and applying innovations in curriculum.

*Conclusion*

Physical education teachers whether student teachers, beginning teachers, or experienced teachers are all being challenged within their profession. The changing curriculum, the implementation of daily physical education and the increasing abundancy of literature through research journals and texts, as well as national and provincial physical education reports, all place a demand upon their professionality. Universities and school systems perpetuate their expectations upon the physical educator with an increasing momentum. Hence it is critical that in-service models are established so that educational changes in physical education may become quality changes not idealistic notions without substantive implications. Possibly the implementation of school based in-service programs and the establishment of positive supervisory strategies and communication techniques through clinical supervision will become more prevalent in the 1980's. The sensitivity and creativity of all physical educators will be needed to realize these two paramenters of change. I am confident this challenge will be met successfully.

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CHAPTER 16

# VENEREAL DISEASE: PREVENTATIVE TEACHING METHODS

PETER ROBERTSON

*Are Educational Programs Effective?*

If you look at the decline of V.D. incidence following the last world war it could be argued that the reduction in reported cases was related in part to the great emphasis on educating the public about V.D. at that time. If you are sceptical about the power of education, you might attribute the decline entirely to improved treatment techniques, like the discovery of penicillin. Let me present on a visual, recent data that indicate a similar trend—the "Reported incidence of gonorrhoea infections in Ontario for males—according to age specific rates."

You can see that young males (the age group of high school students today) have fewer reported cases of gonorrhoea than the same age group in the early 70's. It is difficult to explain why—but young people of today likely are better educated about gonorrhoea and not as promiscuous as their counter parts "the flower children and hippies" of the same age group a decade earlier. Studies have indicated that today's teenage sexual behaviour is generally monogomous in that they date one person consistently over a given time period. It would be naive to leave the impression that education alone is responsible for the lower rates of gonorrhoea among Ontario's teenagers. We know that sexually transmitted diseases are directly related to the number of sexual exposures. Schools are experiencing declining enrolments which are a measure of fewer teenagers than in the early 70's when the baby boom came through out high school system.

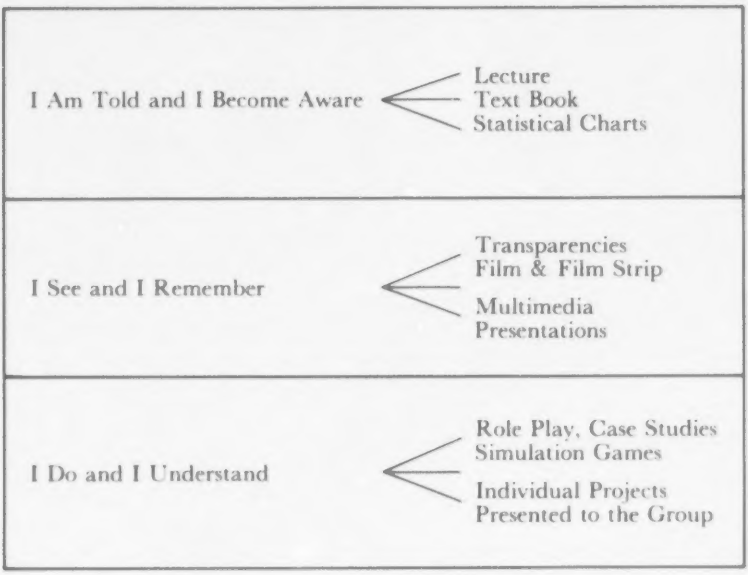
If is interesting to note how the group of students who were teenagers in the early 70's have grown older and continued to show up in our statistics to be the main reservoir, still responsible for high incidence of infection now that they are 23-29 years old. Therefore, it appears that the same individuals who were infected as teenagers in

the early 70's continue to have V.D. infections or reinfections today. Again this is explainable since there are more people today who are 20-24 and 25-29 than there are 15-19 year olds. So we should expect more incidence of V.D. among the most sexually active age groups.

*What Are the Most Effective Educational Methods?*

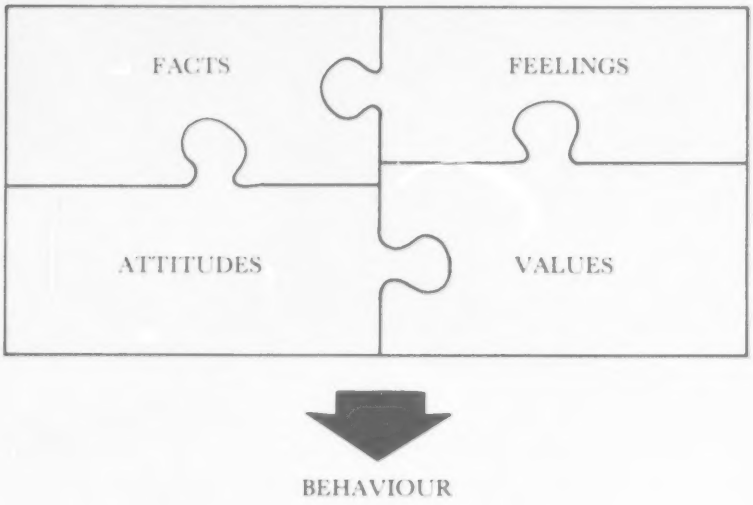
Any community is now 100% homogenious. All people do not fall into one neat package. Public health professionals have realized the need to mix the ways they reach the infected population with medical help. They provide the optional services of the family doctor, the hospital clinic, and the independent or free clinic. These all play a role in appealing to different groups in our community.

So in educating people a variety of methodology is recommended. The one shot special auditorium lecture or guest speaker is not the way to deal with a complex and intimate subject matter. Small group methods which encourage individuals to think, question and to share their feelings are likely the best techniques. By utilizing what we have learned in our conversations, the concepts become internalized and part of our attitudes and value system.



The above chart implies that each educational method can bring people to different levels of learning: from awareness, to recall, to a more indepth understanding.

I have a pet theory about learning that recognizes factual information is not usually sufficient to motivate a person to change his behaviour (to learn). As educators we must reach beyond the cognitive levels of one's mind to deal with the affective domain as well. This involves wrestling with feelings, attitudes, and values. Just as there are effective ways to present facts—educators are learning how to involve these other personal dimensions of learning. It is only when we have involved the whole person—facts, feelings, attitudes and values, that we will see the message get through to alter behaviour and effect ones life style.




In V.D. clinics the traditional pattern of the interviewer has been to ask the person to reveal the names of their sexual partners. "Naming the contacts" often carries with it the feeling of "squealing on a friend" which can provoke feelings of guilt. Rather than track down the contact like a mountie getting his man, a new technique is gaining favour. You are asked to think back to the incubation period of the



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disease and to all the persons with whom you had intercourse during that time. Then you are given a card for your friend that reads:

You have been exposed to an infectious disease. Please contact the above phone number for a medical appointment.

This card can be given directly to your friend or anonymously. Studies have indicated this approach which trusts the person to follow up on his own behaviour and to be responsible is as effective as the old procedure.

The reason I took time to explain is to point out that our educational programs must also move forward to stress the concept of self-responsibility. In V.D. education we can plant the seeds to promote responsible behaviour.

*A Closing Thought—On Self Responsibility*

Ultimately an effective educational program should have a result on the learner's behaviour. A V.D. program must reduce the incidence of infection and motivate those infected individuals to seek medical help. Our goal must be self motivated or self directed responsible behaviour.

NOTE

Contact the author for figure.

CHAPTER 17

# THE HEALTH EDUCATOR AS A ROLE MODEL

WAYNE R. MITIC

The purpose of this article is to explore the two schools of thought on the issue of whether or not health educators are role models. The school of thought that believes health educators are role models is concisely summarized by the following saying:

> What a teacher does speaks louder than what he says.

Therefore, a person who is grotesquely overweight would not be well suited for teaching students to be nutrition conscious. Similarily, if a teacher colourfully illustrates the hazards of cigarette smoking and is later observed smoking, his/her credibility decreases drastically. Teachers can be thought of as being on stage each time they direct a class, and teachers, being what they are, would naturally be exemplars to those around them, especially their students.

Paradoxically, however, students seem to consciously mock those teachers they like *least* and subconsciously imitate those they admire and respect *most*. For example, students can be seen walking down halls exaggerating the monotone voice of their Science Teacher, Mr. Dull, but conversely if confronted with why they are attempting to grow moustaches, the least likely response would be because Mr. Sharp, their English Teacher has one. Even though this may be the real reason. Students like to see themselves as being individuals, answering only to their own values, whereas in actuality, they are watching and subconsciously imitating those teachers they admire.

Does the literature support these ideas or are these thoughts nothing more than a distorted view of an educator through myopic eyes? Feshbach *et al*. found that nine- and ten-year-old pupils readily changed their preferences of animal pictures to match their teacher's preferences after watching the teacher choose her favourite pictures. In a report by Landers *et al*., nine-to-twelve-year-year-old children were more likely to emulate a highly competent teacher model than a highly competent peer model on a complex motor task, but would

imitate low competency peers more than low competency teachers on the same task.

Molloy investigated whether the way a teacher dressed influenced the motivation and discipline of students. In a case study of two teachers who each taught the same class for half day sessions, one wore rather casual clothing while the other wore a more traditional suit and tie. The investigator found that the students worked longer and harder for the traditional teacher as compared to the casually dressed one. He concluded that appearance had an effect on discipline, work habits and attitude in the classroom.

One health related area that has been extensively examined is adolescent cigarette smoking behaviour. A study sponsored by the American Cancer Society concluded that teenagers were 50 percent more likely to smoke if adults they came in contact with smoked. Another study emphasized the responsibility to "... provide a school environment that does not encourage smoking" and that the "... teacher was the key and the fundamental factor in the solution of the problem especially as a model and exemplar."

Newman sampled 653 teachers to explore whether they were aware of their roles as exemplars to students' smoking behaviours. Sixty-two percent of smokers and seventy-three percent of non-smokers felt that teachers' smoking behaviour influenced, by their example, the habits of students. When asked the question "Do you believe that a teacher can influence smoking habits of students?", 74 percent responded affirmatively. Those who felt that a teacher could influence smoking habits of students were asked who would be most effective? Ninety percent agreed that the former smoker was likely to be more effective than either the non-smoker or smoker.

It may be assumed from this result that many teachers felt that in order to modify students' behaviours it was necessary for that teacher to be able to associate with those behaviours. In essence a role reversal may occur such that a teacher emulates a particular student behaviour to totally understand what a student experiences. For example, a teacher may try marijuana in the hopes of being better able to communicate with students who have drug problems. Discussion of the role reversal phenomenon is beyond the scope of this article. It exists, its prevalence to date has not been studied.

In another study, Chen and Rakip questioned 162 teachers as to whether or not they felt it was the teacher's responsibility to set a good example for the student by not smoking. Seventy-four percent of non-smokers and 81 percent of ex-smokers responded affirmatively, while only 41 percent of smokers did so. Regarding classroom practice,

fewer smokers originated a discussion of smoking with their students, and fewer smokers made any attempts to initiate students' smoking behaviour change. When asked why they did not try to change students' smoking behaviour, the majority of the smokers responded that they could not because they themselves smoked.

These studies are but a few of the many that conclude that teachers, and health educators specifically, are exemplars of health behaviours to their students. Teenagers resent being given health related facts by those they perceive as ignoring these facts in their personal lifestyles. Students trust teachers less if they sniff out hypocracy.

*Health Educator—a Facilitator*

At the other end of the continuum exist the educators who believe that their role is to be a facilitator—to help students acquire knowledge necessary for them to make informed decisions regardless of their own personal behaviours or biases. This school of thought can be presented by the following saying:

> Give me a fish and I eat today.
> Teach me to fish and I eat forever.

Anyone can be a role model if one person puts another in that role. Therefore, rather than being an instructor whose emphasis lies on content much as one would program a computer, the teacher becomes a facilitator who assists students in sorting out and clarifying what all the content and concepts mean to *them*. A shift must occur from a teacher orientation of "How can I make them learn what I want them to learn?" to a more student centred orientation of "how can I help them learn what they want to learn?"

The health education curriculum contains many important value centred and sensitive subject matter areas. The subjects of alcohol use, cigarette smoking and human sexuality are all value loaded. Biases displayed by the teacher in these areas can often turn students away. Russell referred to health educators as "warriors against pleasure." He saw health education "as a science of proscription—the discipline set up to tell people what they should and should do." Health educators appear to wage a never ending battle against things that taste or feel good and whose vocabulary to a great extent consists of words such as "don't," or "you shouldn't."

Values clarification takes the spotlight off the teacher's biases and/or values. The clarification process aids students in sorting out and clarifying their own values. Through the values clarification process

students are confronted with inconsistencies, and are assisted by their colleagues and the facilitator in sorting out their own values.

There are, however, certain "road blocks" to this freeing process. Things such as poor self-esteem, external locus of control, alienation or lacking assertiveness can hinder the decision-making abilities of a student. Therefore, an adolescent may be heard saying "It's alright to smoke, Mr. Jones does and he knows all the facts." The student is suffering from one of these roadblocks, a symptom which manifests itself by the student letting others make decisions for him, or using others as an excuse for their non-healthy behaviour.

Are these assertions merely dillusions of the same near-sighted educator or does the literature support these views. Juhasz explored, through an extensive journal review, the characteristics essential to teachers in sex education. There was striking agreement among researchers, administrators and writers. She concluded that the sex education teacher, to be most effective should be able to:

(a) accept and respect him/herself and all humans as sexual beings
(b) empathize and establish rapport with students
(c) in an atmosphere of freedom, to communicate and carry on a dialogue in which
(d) accurate and comprehensive information is exchanged and evaluated.

The teachers' own particular habits were not considered by researchers to be significant indicators of the program's effectiveness.

Malkin and Allen surveyed the smoking habits of 229 students in grades eight and eleven. No difference between smokers and non-smokers were found in the following areas:

1. exposure to smoking behaviour of teachers, physicians, dentists or clergy
2. or knowledge of smoking effects.

Significant difference was found, however, with respect to exposure to the smoking behaviour of parents, siblings and peers. Teenage smokers generally have friends or parents who also smoke.

The big question, as Hayman once stated, is how does the school help to shape and free youth at the same time? Educators must start by doing just that, educating not indoctrinating. To educate means to lead out, to indoctrinate means to stamp in. Indoctrinating is self-defeating when students are faced with new situations and problems

in a rapidly changing society. Educators strive to prepare students to think rationally and to be adaptable in this unpredictable future. Students should be guided toward learning to accept more responsibility in making their own choices and decisions. This is accomplished by accepting students as real, feeling, responsible and valuable members of the teaching-learning environment. We do this by learning to accept students as they truly are and they in turn will accept us.

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CHAPTER 18

# MATURATIONAL ASSESSMENT OF FEMALE GYMNASTS

KATHERINE S. CAMERON

The tendency for female participants to be among the youngest Olympic participants (De Garay *et al.*, 1974), the domination of Olympic gymnastics by record holders in the teenage group (Noval *et al.*, 1977), and the lowering in average age of both the participants and the medalists of women's gymnastics (Krustev, 1977), seems to indicate that female gymnasts are reaching their prime or "peaking" at younger ages. This appears to be the case since accompanying this decrease in age, is a progressive increase in skill complexity and the attainment of very high degrees of performance.

Many of today's elite female gymnasts are in the age range when normal pubertal developments are expected to take place. This fact, coupled with the observation that fame for female gymnasts is often short-lived, with female gymnasts tending to drop out of high caliber competition during or soon after adolescence, has led to the inquiry that an "age factor" may play an important role in the evolution of gymnastic performance. A logical inquiry from these observations is; whether or not certain "advantages" co-exist with the "younger" female gymnast, rendering her a more appropriate candidate for gymnastic-type movement than the "older" gymnast.

A declining age of participation, concurring with an increasing level of skill complexity, may reflect the changing nature and evolution of "women's" gymnastics. This trend suggests the possibility that important relationships exist between maturational status, and success in gymnastic performance.

It was the purpose of this research to investigate the possibility that success in gymnastics is related to the concept of maturational age.

## *Methods and Procedures*

*Subjects.* Sixty-nine Canadian female gymnasts, between the ages of

11.5 and 18.0 years, from the following performance levels, participated in the study:

*Group 1, National Elite Gymnasts.* 15 of the 17 designated National Team Members of 1977 were available for testing. These gymnasts are classified by the Canadian Gymnastics Federation as Level III or IV gymnasts, based on their performance results from a battery of physical tests.

*Group 2, Pre-National Elite Gymnasts.* 13 of approximately 35 eligible gymnasts were available for testing. These gymnasts classified by the C.G.F. as Level I or II gymnasts, have a real potential of becoming national team members, and are eligible for selection for some international tournaments.

*Group 3, Competitive Gymnasts.* 20 gymnasts were randomly selected for testing. These gymnasts are classified by the C.G.F. as Level A or B gymnasts, and are active participants of certified Regional and Provincial competitions.

*Group 4, Recreational Gymnasts.* 21 gymnasts were randomly selected for testing. These gymnasts have never trained for, or competed in, certified competitions and have attended gymnastic classes for a minimum of one year, and for a least one hour per week.

### *Maturational Measurements*

*Skeletal Age.* One radiographic photo of the left hand and wrist was taken for each subject. The Tanner-Whitehouse II Method, the 20 bone specific approach (Tanner *et al.*, 1975), was used exclusively in assigning skeletal ages.

A difference value for Chronological Age minus Skeletal Age was computed for each subject. A positive value indicated a delayed skeletal age, in reference to the chronological age, while a negative value indicated an advanced skeletal age.

*Menarche.* The status-quo method of data collection was used, in that it was determined whether menarche had, or had not occurred.

### *Statistical Analysis*

For all statistical analyses the following preplanned orthogonal contrasts were used:

| | |
|---|---|
| Group 1 + Group 2 + Group 3 | vs Group 4 |
| Group 1 + Group 2 | vs Group 3 |
| Group 1 | vs Group 2 |

Chronological Age minus Skeletal Age values were subjected to an analysis of variance test with application of the preplanned comparisons.

The incidence of menarche values were subjected to a chi-square analysis test with application of the preplanned comparisons.

The level of significance for all statistical tests was set at $p<.01$.

*Results and Discussion*

The results of the statistical analyses indicated that higher skilled gymnasts in comparison to lesser skilled gymnasts, are maturationally delayed, both in skeletal age and menarche. These significant differences indicate that there may be a relationship between gymnastic ability, and maturity, with highly skilled gymnasts being developmentally less mature than lesser skilled gymnasts. The fact that significant maturational differences were not found between national elite and pre-national elite gymnasts, possibly serves to further support a maturity-ability relationship since these two groups are considered to be relatively close in ability.

Furthermore, the maturity indicators suggest a consistent trent concerning maturational status and success in gymnastics, such that accompanying progressive increases in gymnastic ability are progressive decreases in maturational status (C.A. minus S.A. differences increase such that: Group 4 Group 3 Group 2 Group 1; and also Group 1 + 2 + 3 Group 1 + 2. The frequency (%) of the incidence of menarche decreases such that; Group 4 Group 3 Group 2 Group 1; and also Group 1 + 2 + 3 Group 1 + 2).

From these observations it can be hypothesized that; "those female gymnasts who are late maturers, are more apt than average or early maturing female gymnasts, to progress to higher performance levels."

It is not unreasonable to expect that maturity is related both directly and indirectly to success in gymnastics since:

1. Some of the major physique characteristics of female gymnasts that have reached a high degree of success are also present in the prepubescent and late maturing female. As well, the ultimate adult physique of the late maturing female appears also to resemble that physique associated with success at elite gymnastic levels.

2. A delayed maturity with its concomitantly longer pre-pubescent period has been associated with an extended critical learning period for female figure skaters. Although critical learning periods per se, have not been established for gymnastic-type skills, it appears reason-

able to suggest that a physique free of pubertal charcteristics, such as increased weight, fat, and overall dimensions, would be an advantage in learning and mastering specific gymnastic skills.

The advantage of a delayed maturity and an extended pre-pubescent period may be a very real and important factor in success for female gymnasts, since there is some speculation that female gymnasts from the Soviet Union and Eastern Europe may be using a "brake" drug to remain petite and lithe, by delaying puberty (Quinn, 1979).

Whether or not the pre-pubescent female is better equipped "biomechanically" and functionally, to perform complex gymnastic skills, and whether or not puberty is the "despoiler of athletic maids" as Cranston (cited in Clark, 1980:6) contends, is at this time only speculative since there is an absence of direct evidence.

*Conclusion*

The assembled evidence clearly supports the view that a delayed maturity is associated with success in gymnastics, for female participants.

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NOTE

Consult the author for details of tables.

CHAPTER 19

# OBSERVATION AS A TEACHING BEHAVIOUR

KATE R. BARRETT

I have titled my presentation Observation As A Teaching Behaviour to draw attention to the fact that observation is a teaching behaviour and that it is important enough in its own right to be studied separately from other behaviours. This point is difficult to grasp as it is often confused with the current idea of observation OF teacher behaviour. They are related ideas, but different.

My presentation will be divided into three parts: the first, a brief discussion on the role of observation in teaching; next, some comments about the nature of the observation task itself; and finally, examples of some of the work I am doing with pre and inservice elementary school physical education teachers to help them improve their observation ability.

*Role of Observation*

Observation is central to effective teaching. If teachers cannot observe accurately the movement being performed as well as how the environment may be affecting it, they cannot be effective in their work. Teachers that are truly effective have the ability to respond continuously and thoughtfully to what is emerging in the teaching/learning situation. In relation to elementary school physical education this implies a keen ability to observe movement and the environment, to interpret these observations in terms of criteria, and to intervene (make decisions about what to do or what not to do) in the learning process (Roberton & Halverson, 1977, p. 25). While there is basically nothing new in this model of teaching, when viewed from this perspective the role observation plays becomes crystalized and visible.

The stated importance of skilled observation can be documented as far back as 1939 when Laura Huelster expressed a concern that

students preparing to become teachers of physical education were not well enough equipped to analyze or to observe movement. Today, 42 years later, teacher educators are still expressing this concern, but seem to be functioning on the assumption that if you can analyze movement you can observe it. To them, analysis of movement and observation of movement were synonomous ideas. Over the past years I have had reasons to doubt this assumption many times and consequently have separated the two concepts and reconceptualized their relationship. I have identified two forms of analysis—analysis (of movement) for *understanding* movement and analysis (of movement) for *observing* movement. Analysis for understanding movement has traditionally been handled by experiences in kinesiology as most physical educators relate analysis of movement with mechanical principles and mechanical principles with kinesiology. Analysis for observing movement requires the thoughtful selection of critical features, those features of the movement and environment that the teacher will look for specifically when teaching a particular movement or sequence of movements and that will have the greatest influence on its performance at that time. This second form of analysis strongly relates to the first form, but it is not the same. It is a form of analysis to which teacher educators have paid little attention.

My position about the role that observation plays in teaching elementary school physical education can be summarized by stating four assumptions I hold about observation.

1. Effective teaching requires skillful observation.
2. The ability to observe skillfully has been assumed to develop automatically.
3. Observation as a teaching behaviour is underdeveloped in most elementary school physical education teachers and for the most part they are unaware of their inability. (They may not know what skillful observation is.)
4. Observation ability can be improved.

### *The Nature of the Observation Task*

For the past few years I have studied the nature of the observation task by reviewing our literature and by asking students, teachers, and coaches questions about how they think they observe. Let me share with you some of what I have found out (for a detailed treatment of this information see Barrett, 1979).

1. Observation ability has a knowledge base and is perceived broadly in terms of "principles" and specifically in terms of correct/incorrect paradigms and/or developmentally. Furthermore, for skillful observation to occur: (a) different knowledges may be needed for observing different situations (an environment that is stable compared to one that is constantly changing and/or a movement response(s) that has the potential of being different among all students), and (b) critical features of the movement(s) being observed need to be carefully identified.

2. Factors that affect observation ability are critical to identify as they need to be considered when helping teachers to improve their ability to observe. Some are: (a) concentration or the self-discipline needed to stay with the task of observing, (b) the speed, the complexity, and the number of times the movement is repeated, (c) the number of students being observed, (d) the teaching or coaching experience of the observer, (e) the observer's own movement ability and (f) the visual strategies needed.

*Implications for Teacher Education*

As a direct result of my studies two major changes have been made in the way I approach teacher education experiences for elementary school physical education.

1. A reconceptualization of my "methods" course in elementary school physical education has occurred which has incorporated the trilogy of observation, interpretation, and intervention as the organizing elements around which the entire course is designed and implemented.

2. Specific materials to help students, teachers, and myself improve observation skill have been developed (video tapes, 16 mm films taken in slow motion, and written handouts).

*Note*—The remainder of the presentation focussed on giving examples of how my methods course has actually changed and showing specific materials designed to help students improve their observation ability (VTR, 16 mm films, actual observation "plans," and a "planning for observation" handout). As this section of the presentation does not lend itself to written proceedings it has been omitted.

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CHAPTER 20

# EFFECTIVE TEACHING IN PHYSICAL EDUCATION

JOHN McLEISH, BRUCE L. HOWE and JOHN J. JACKSON

The revival of the notion of public accountability has focussed attention once more on the classroom situation. Research over the past thirty years or so, has revealed that the classroom is a complex interactional system, with student gains in achievement as one of the most enigmatic of the variables. Attention has therefore been concentrated on teacher and student behaviours by research workers in this field for some time.

In studying teaching efficiency, the first principle is to control our impressions and subjective intuitions by collecting comparative data for systematic study. The data must be collected *in situ*, that is in the classroom environment; in the case of physical education in the gymnasium. In examining the data we must concentrate our attention on teaching and learning behaviours and pay no regard to the teacher's intentions, nor even his declared objectives, unless these cannot be made out from the lesson itself. Efficiency will be a function of that proportion of the lesson where the children are "on task." Coding of behaviours according to ALT-PE gives us this information and is a useful method of controlling subjectivism and bias in our assessments.

Learning is presumably a function of effective teaching. At least, we have this feeling that effective teaching and student learning gains are complementary. However, the two activities take place in a context. All kinds of contingencies are set in train in the classroom. Some facilitate, others inhibit learning, and teaching. The leading characteristic of these contingencies is that they are extremely obscure and not open to immediate observation. The systematic analysis of behaviour reflects the objective reality and is a prime indicator of effective teaching. But we must pay heed to other criteria. There are prior questions such as, the appropriateness of subject-matter and method of instruction, the developmental structure of the lesson, the diversity of procedures and activities, the overall climate of the classroom.



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In this study we videotaped 100 physical education lessons in British Columbia schools. The experimental design involved factors such as type of activity, class size, and teacher age, sex, and experience. The major interests in the paper are the validity of the ALT-PE (Siedentop) system of analysis and the evaluations of experienced judges on the quality of the lessons.

*The Analysis of Teaching*

We can set out the ALT-PE system (Siedentop) schematically, as follows:

| Relatively Effective; | Relatively Ineffective; |
|---|---|
| Maximal Amount of | Disproportionate Amount of: |
| Engaged time | Waiting |
| Phys. Ed. Content | General (non-PE) Content |
| Skill Practice | Management |
| Task-Practice-Motor-Easy | Knowledge content |

In other words, effective teaching means devoting the time available to providing opportunities for learning directed towards the objectives of the lesson. The primary objective of physical education being the development of specific motor skills, all other extraneous activities should be reduced to a minimum. The system provides a quantitative analysis of the lesson in each of the above categories. The percentage of time practicing the motor task at an easy level is the prime index of efficiency.

Trained coders, working from the videotapes, focussed on particular students and noted the nature of the activity engaged in over successive six second intervals. Three students were selected, at random, and successive observations recorded on their activities. This provided a random sample of class behaviours. To establish reliability, two coders worked independently, coding the tape.

The range of differences between the lessons was amazing. The two prime indicators of effective teaching, TPME and Waiting Time, ranged from zero to over 60 percent.

Certain categories were conspicuously absent from all 100 lessons coded—problem solving, scrimmage, reciprocal, and social behaviour. Other behaviours are almost universal—easy practice of overlearned skills, direct instruction, non-engaged, and interim waiting. There was a certain sameness about most lessons—unimaginative routines of a time-exhausting character were common. In certain lessons, the teacher began by de-activating six of the class while the other half had each one-sixth of the time available, at best, for prac-

tising the simple motor skill. "On-task" behaviour was one-twelfth of the possible.

*Judges' Evaluations*

The tapes were assessed in four separate groups for the quality of the lesson taught. The evaluators were five faculty members, four physical education teachers, two graduate students trained in ALT-PE and four physical education teachers in a recreational setting. In a more definitive study, 24 lessons (six each of four games) were evaluated by three faculty members and three experienced physical education teachers. The agreement of the recreation setting judges was high, remarkably so. However, the validity of their judgments is highly questionable since they are the reverse of the ALT-PE codings. The greater the waiting time, the better the lesson; the more "time-on-task" the worse the lesson, according to these judges. In the definitive study, the agreement of the judges was just better than chance. The question, whether a holistic judgment based on an unsystematized intuition (the judges' evaluations) gives a better basis for assessing the quality of a lesson than an analytical approach (ALT-PE), must be answered with a clear negative.

*Consistency of the ALT-PE System*

We were interested in comparing the consistency of the ALT-PE system with that of the judges. We therefore classified the 100 lessons according to the amounts of TPME and Waiting Time in each. These are rather crucial variables. They were given the same weighting, but in opposite directions (that is, the best lessons were taken to be high in TPME and low in Waiting Time). Initially, the total group was divided by eyeball into the eleven best and eleven worst lessons, with 82 of average quality. Successive discriminant function-analyses, using the two criteria of effectiveness, gave the best possible groupings as being 18 in Group 1, 48 in Group 2, and 38 in Group 3. For this group of lessons, in other words, the relative evaluations were that 18 were better than the average of the group, 48 were mediocre and 38 were poor. The analysis revealed that, in addition to our two criteria variables, the lessons differed very significantly on most of the other Siedentop variables. Knowledge focus, content PE, and skill practice were not different across the three groups, good, mediocre, and poor. In every case, including the last three, the trends were consistent.

*Siedentop Effectiveness Groupings*

| | *Best group* (n = 18) | *Average group* (n = 48) | *Poor group* (n = 38) | *Significance level* (n = 104) |
|---|---|---|---|---|
| TPME | 43 | 27 | 12 | .00005 |
| Waiting | 14 | 19 | 29 | .00005 |
| Easy | 63 | 52 | 43 | .00005 |
| Engaged time | 64 | 52 | 46 | .00005 |
| Knowledge | 20 | 22 | 22 | .63543 |
| Skill practice | 52 | 49 | 43 | .06225 |
| Task | 61 | 52 | 41 | .00005 |
| Content P.E. | 81 | 77 | 75 | .12362 |
| Management | 17 | 21 | 25 | .01312 |

The table demonstrated the internal consistency of the Siedentop system. The basic fact is that with ALT-PE all the different pieces fall into place. The picture they reveal is compatible with learning theory (which is merely a sophisticated processing of everyday experience as seen through the prism of controlled experimentation).

Another interesting fact revealed by the analysis was that a knowledge focus in the lesson has no bearing on teaching effectiveness. Nor did the total amount of skill practice, nor did P.E. content, discriminate between good, mediocre, and poor lessons. In other words, using the method of subjective evaluation, we may be misled by the amount of activity as such and by a perceived knowledge focus. However, according to the ALT-PE plan, it is task-practice-motor-easy which discriminates the good from the poor lesson, supported by waiting time, acting in reverse. The other main (counter-productive) teaching activity was management.

*Final Comment*

We have three problems with many of the lessons on tape. It seemed that the skill level was set too low. The process observed was not so much learning as over-learning. We accept Vygotsky's view that the teacher, in physical education in particular, should be working in the student's zone of proximal development, that is, at a level above his present achievement rather than at his existing level. As improvement occurs, the skill level demanded should move upwards. In other words, good teaching involves making progressively greater demands on the student in terms of performance. A pre-requisite of effective

teaching is that we know the individual level of students. The second essential is a programme of activities of progressive difficulty. Reinforcement of successful performance is the third element, which was missing from these lessons to an almost absolute degree.

CHAPTER 21

# INDIVIDUALIZED INSTRUCTION IN THE SECONDARY SCHOOL

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Charles E. London Junior Secondary School has 750 students in Richmond, British Columbia. It consists of grades 8 through 10 and physical education is considered to be an integral part of the total educational program of the school. Due to faculty interest and previous program involvement, this school was one of a number of schools which assisted in piloting many of the ideas and concepts contained in the revision of the physical education secondary curriculum (1980).

A major concern of the physical education secondary curriculum revision committee was to provide teachers and school districts with a basic framework upon which a comprehensive program in physical education could be established. This program was to provide opportunities for individual development in the psychomotor (fitness and motor ability), cognitive (knowledge and understanding), and affective (attitude) domains. Of particular importance was the recognition that individuals have different needs and develop at different rates.

With these concepts in mind, breadth of program was established through the introduction of seven broad activity categories in which students would have opportunities for achievement. These included team games, individual and dual activities, gymnastics, dance, aquatics, fitness, and outdoor pursuits. These categories were meant to provide the activity focus through which the goals and learning outcomes advocated in the curriculum guide were to be obtained.

In order to provide an organizational structure upon which individualized instruction and progressive development in physical education could be accomplished a sequential hierarchy or "levels" was developed for a number of representative activity areas. This organizational structure was established to provide assistance for teachers in recognizing the nature of skill development while providing oppor-

tunities for a variety of instructional strategies. Charles E. London took these basic concepts of program breadth, program quality and the individualized needs of students in developing their approach to "Individualized Instruction at the Secondary School Level."

The school is on a semester system where students take physical education five times every six days for one semester only. All classes are 55 minutes long. The physical education 9 and 10 classes are all co-educational; the physical education 8 classes schedule a boys' and girls' class in the gym together so that some activities are taught on a co-educational basis and some are taught separately. Facilities include one large gym, a narrow mezzanine above the change rooms, a tiled student lounge which can be utilized for certain activities (wrestling, fitnastics, etc.) and three large outdoor fields. There are no department heads; the physical education staff is supervised by one of four administrative assistants to the principal.

When the school opened, the physical education department was given little direction for establishing an effective program. Each teacher taught activities according to individual background or preferences, resulting in little co-ordination from one class to the next.

In 1977, the physical education staff at London initiated a curriculum based upon a grade level approach to skill development. The grade 8 classes were taught basic skills, and these became the foundation for skill development in grades 9 and 10. Each member of the physical education staff took on the task of developing a series of lesson plans, student handouts, and cognitive tests for three or four activities. A record-keeping system was devised to keep track of each student's progress through all three grades. In late 1977, the British Columbia Ministry of Education began development of a curriculum emphasizing an individualized approach, rather than a grade lock step approach. The physical education program at London was adjusted to incorporate this approach and began piloting the program in 1978.

Each activity at London is now divided into four levels as outlined in the provincial curriculum guide. Level 1 being the beginning level, and Level 4 being the most advanced level. Students participate in the activities at the level appropriate to their degree of skill and knowledge. Grade 8 students are asked to complete most of the Level 1 basic skills in all areas of an activity before attempting those at a higher level. In some units Grade 9 and 10 students may specialize in certain areas of an activity at a higher level without completing all of the foundational skills in each area. Students in the Grade 9 and

10 program must complete two compulsory courses: dance and fitness. In all other units the students choose their activities.

The physical education program offers units from all of the seven major activity categories outlined in the curriculum guide. There is an emphasis on a variety of team games and fitness activities with the inclusion of gymnastics, dance, aquatics, individual and dual activities and outdoor pursuits.

Some of the major goals that this particular program is trying to achieve include; (1) providing student motivation to learn physical education skills, (2) giving the responsibility and skills to students that enable them to evaluate their own ability, and (3) providing an accountable, professional approach to physical education. Continuous evaluation helps achieve these goals by providing immediate feedback to the student with regard to their progress within the levels and by giving students some responsibility for evaluating their own progress. Students are required to complete certain pre-assigned skills in each level with eighty percent proficiency before being given credit for completion of a level. Self, peer and teacher evaluation is incorporated. Recording of evaluation is done on Physical Education Permanent Record Cards and on Psychomotor Activity Sequence Charts.

Students are made aware of the difference between evaluation and grading. They are told that their letter grade will be based upon a composition of psychomotor, affective and cognitive achievements and that they will be graded individually. The school has letter grade requirements for all courses. The physical education grading policy is outlined in a student handbook. The percentage breakdown between cognitive, affective and psychomotor domains has been agreed upon by the staff but may differ in some units such as active health because of the expanded cognitive emphasis in such a course.

A forty to fifty percent weighting is assigned to the psychomotor domain. Part of the mark is based on objective skills tests, some of which are assigned and others which are chosen. Game play and improvement are also included in the psychomotor mark. A twenty-five to thirty percent weighting is assigned to the affective domain. The objective mark is based on strip and attendance while the subjective mark is based on such items as attitude, leadership, co-operation, sportsmanship and responsibility. A twenty-five to fifty percent weighting is assigned to the cognitive domain. Students are required to write exams, prepare assignments or to make presentations to the class for grading in this area. Students may remain at a beginning

psychomotor level throughout their years in physical education, yet be able to achieve a higher level in the cognitive domain. Flexibility within the grading system is necessary however to reflect the individualized Physical Education program at Charles E. London School is attempting to improve the quality of the program offered by meeting the varied demands of individuals in a classroom, increasing the accountability of the program, offering a well balanced course and meeting as many of the requirements of the new British Columbia physical education curriculum as possible.

CHAPTER 22

# UNDERSTANDING THE PROBLEMS OF THE PROBLEM-SOLVING APPROACH FOR TEACHERS OF EDUCATIONAL GYMNASTICS

JANE HODGE

"Educational Gymnastics" is generally agreed to mean gymnastics skills acquired through a discovery process by which an individual gains understanding of himself, his movement capabilities and limitations and an understanding of the movement principles that apply to any movement skill (Hodge, 1980).

This definition clearly implies a certain philosophical standpoint on the teaching/learning of gymnastics. Most people who elect to teach educational gymnastics do seem to share a certain philosophy of education, physical education and children's learning. They select a form of methodology (the way in which the material is presented to the learner) of the problem-solving or inquiry type.

The title "Problem-Solving" is one adopted by Mosston (1966) in his spectrum of teaching styles. In this paper the author views problem-solving in a broader sense incorporating many aspects of several defined "styles of teaching" as a general approach involving inquiry and discovery. The pre-dominant characteristic of this approach is the active utilization of cognitive processes by the learner. The learner is guided to think about the subject matter of the lesson and the process of inquiry leads them to the discovery of the desired end product (Dougherty and Bonanno, 1979, p. 26). Logsdon *et al.* (1977, p. 250) suggest that "Teaching is an interactive process in which both the teacher and the child are potential decision-makers in the creation of the learning environment." In a discovery approach the responsibility for decision-making will shift back and forth from the teacher to the learner but rests largely with the learner.

Any discovery process demands considerable involvement from the teacher. The teacher must clearly recognize when and to what extent the responsibility for decision-making is in his hands and when it is in the hands of the learner. He must direct the shift of responsibility

towards the learner commensurate with the learner's understanding and be ready to take the responsibility again himself when he identifies the need to redirect or build upon the learning. Clearly the teacher must have an understanding of the physical, social, emotional and intellectual needs of the learner in order that the appropriate tasks are presented and that meaningful task objectives are set. Then the key to purposeful learning lies in the teacher's knowledge of the desired outcomes. When a movement problem is selected by the teacher for the learner to solve, then the teacher must know exactly what outcome he expects, and whether the problem demands a very specific response or whether it allows for a variety of possible solutions. The very exacting task for the teacher is to accept or to reject the responses and to clarify these decisions, for the learner, in terms of the framework of the problem. This procedure is fundamental to teaching the learner how to explore, experiment and discover in order to solve movement problems purposefully. If the teacher accepts any and every response in a discovery process, then the learning is limited and vague because there is no commensurate understanding of the significance of the response produced.

Skill in observation and the ability to react to what is seen are vital for the teacher. It is through observation that the teacher assesses the needs and potential of individuals and of the class as a whole and thus initiates the necessary guidance. Not only must he be able to interpret the movement responses produced by the students and to match these with the framework of the problem he set, but also must recognize that there is the need to refine and master the skills discovered and invented, in order to improve the quality of the movement. It is deceptive to assume that within the objectives of a discovery approach there is no challenge for perfection. Although the learner is producing diverse and individual responses the challenge must be there to perfect the performance of every skill and to achieve ever more difficult skills. The challenge of perfection should be present even in the execution of the simplest movement. It is as much a joy to walk well as it is to perform a complex and highly technical gymnastic routine well. Few people achieve perfection at an elite level in any specific sport, but all are able to strive for perfection in the control of their bodies in any situation they chose to be involved in.

Not only must the teacher be a skilled observer but he must help the learner to develop observation skills, too. It is by the learner becoming consciously aware of what he and others are doing, that he gains meaningful understanding. This is done largely through verbal

commentary by the teacher as the learners work at the task. The verbal commentary is designed to encourage the discovery process, to clarify the task objectives and to direct the learner's progress towards those objectives. This verbal feedback is also important in the decision-making process for the learner. It serves as a constant reminder of the task and its parameters. It gives the learner confidence in his choice of response and thus enables him to make further logical decision.

An important factor which occurs as a function of a well-implemented discovery process is that the learner develops self-responsibility. It is only with the knowledge that the learners are self-responsible that the teacher of Educational Gymnastics can confidently set a working environment with challenging and exciting apparatus and still feel secure in the safety of the learners.

In order to be successful with a problem-solving methodology, a teacher must have clear goals based on sound philosophies and a strong commitment to guide the learner with integrity. "The truth is that the value of any instructional system can be judged only by the goals to which the system is directed and the degree to which those goals are met" (Siedentop, 1976, p. 165).

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CHAPTER 23

# TEACHING RUGBY IN SECONDARY SCHOOLS

BRUCE L. HOWE

Because of its complexities as a game, introducing rugby to high school students is not an easy task for the teacher. The game has the added complication in that it has the potential for injury unless proper care is taken in its presentation.

The outline below cannot hope to cover the intricacies of the game but is intended to provide a possible approach within the physical education class. Most importantly, the two major goals for a rugby program are:

1. to provide an enjoyable and rewarding experience, and
2. to develop the required basic skills to enable a basis for later development in the game.

Those aspects of the game to be covered are as follows:

1. Individual skills: (a) Handling, (b) Contact, (c) Kicking
2. Forward unit skills: (a) Scrum, (b) Lineout, (c) Maul/Ruck
3. Introducing the game.

1.(a) *Handling.* The key factors in this area are; (i) run with the ball in two hands, (ii) watch the intended receiver, (iii) swing the arms, (iv) pass with only sufficient power to reach the intended receiver without an arc.

It is best to utilize the concept of 10m by 10m grids to enable all participants to be seen adequately. Approximately, 4-6 people in a grid is desirable. In the initial stages, non-directional passing is possible but this should be adapted as soon as possible. Some possible drills are listed below which were discussed in the clinic: (i) square passing, (ii) pass and follow in a triangle formation (four players), (iii) non-directional passes within a time limit, (iv) 3 v 1, (v) directional passing across the grid, (vi) 2 v 2 (non-directional and directional), (vii) 2 v 1.

Many of these can be adapted for other handling skills such as the switch pass, dummy, picking up the ball, falling on the ball, and the specialist scrum half passes.

1.(b) *Contact* (Tackling). The key factors in this area are: (i) confidence to tackle, (ii) head held to the side of the opponent, (iii) strong grip and pulling action, (iv) confidence in falling.

Introducing contact in a non-threatening manner is important. It is useful to exploit wrestling-like games by matching boys of similar sizes. Again use of restricted areas such as 10m x 10m grids provides a good structure. Possible drills are listed below: (i) use of tackling bags, (ii) kneeling tackle against kneeling opposition, (iii) kneeling tackle against walking opposition, (iv) kneeling rugby across the grid, (v) standing tackles, (vi) 1 v 5 (single tackler with time limits).

1.(c) *Kicking.* The key factors for punting are as follows:

| *Kicking* | *Catching* |
|---|---|
| (i) ball held in two hands | (i) eyes on the ball |
| (ii) drop the ball downward | (ii) hands extended |
| (iii) watch the ball | (iii) catch with whole arms |
| (iv) extend the foot | (iv) bring to body |

While drop kicking and place kicking are important skills they are to be considered as more advance to be demonstrated and practiced without too much correction. Encourage thoughtful kicking both for attack and defence through a stress on accuracy rather than length. If is also necessary to discuss catching skills at the same time. Possible drills are as follows: (i) punt across 2 grids, (ii) use targets, e.g., cones, goal posts, (iii) play punt tennis, (iv) play yards for distance, (v) grubber kick for retrieval in grids, (vi) pop kicks for retrieval.

2. Unit Skills. (a) *The Scrum.* This has become one of the most difficult areas to understand. However for beginning rugby, a few key factors can be enclosed: (i) binding must be tight, (ii) backs as straight as possible, (iii) feet position advantageous for pushing, (iv) put-in and shove to be synchronized.

There is no real substitution for group work in this area but the formation should be introduced in a developmental fashion as below: (i) 1 on 1 pushing and hooking, (ii) 2 on 2, (iii) 3 on 3, (iv) 5 on 5, (vi) 6 on 6 (with No. 8), (vii) full scrum.

To introduce these skills, a scrum machine is useful but not a necessity.

2.(b) *The Lineout.* This is a difficult area to learn but should not be ignored because it is a unique element of the game which can be developed to an art. The key factors are as follows: (i) accurate throwing in, (ii) timing of the jump, (iii) support for the jumper, (iv) forming a maul, (v) transfer of ball to the backs.

As for the scrum, there is no substitution for the practice as a group, moving toward the full lineout in a developmental manner: (i) throw and catch, distribute to scrum half (in threes), (ii) add 2 support players—introduce support, (iii) creat 5 man lineout, (iv) introduce opposition gradually, (v) move to full lineout.

2.(c) *Maul and Ruck.* While there are subtle differences in these formations, for the high school teacher they can be treated identically. Key factors common to both are as follows: (i) ball carrier presents the ball for his team, (ii) support players bind as a front row, (iii) backs should be straight as for scrumming, (iv) players need to apply forward drive, (v) if the ball is on the ground, encourage stepping over it as for a ruck, (vi) players must endeavour to stay on their feet.

The skills must be carefully developed and it is a sensible procedure to go from the lineout formation where support play has been introduced. Some techniques that might be employed are as follows. Use of grids are effective. (i) formation of 3 man platform, (ii) as (i) but with limited opposition, (iii) addition of players up to approximately 6, (iv) transfer of ball to waiting scrumhalf in the air and along the ground, (v) more determined opposition, (vi) combine with scrum and lineout practices.

3. Introducing the Game. It is not sensible to introduce 15 man rugby immediately during physical education classes. The number of people leads to confusion rather than skilled performance. The following outline is a reasonable approach which has proved successful.

3.(a) *Minor games.* (i) 3 on 3 (non-directional); (ii) Corner ball (2 teams of 6 within 10 x 20 area). One team has possession, passes the ball, and attempts to tag an opponent with the ball. No running with the ball. If the ball is dropped or tag is made—change possession; (iii) End ball (2 teams of 6 within 10 x 20 area). Ball is passed ultimately to a player across the "end" line. No running with the ball. Contact is not allowed but interceptions are encouraged. Ball dropped or "try" scored—change possession; (iv) Use any other games.

3.(b) *Touch Rugby.* (2 teams of up to 7 people within 22m x 65m). *Laws.* No kicking, knock-on, forward pass. Tackles made by 2-handed

touch or removal of flag. Teams have 3 "tackles" to score a try. Ball goes to the opposition on situations above. Defenders must retire 5 metres and not interfere. Penalty is to replay the "tackle." Out of bounds is considered a "tackle."

3.(c) *Mini-Rugby* (2 teams of 9 people; 4 forwards, 5 backs). Initially do not include lineouts, although this could be a quick adaptation. Equally stopping the play following a tackle can prevent mauls and rucks in the early stages. Off-side should be explained as new elements are introduced.

3.(d) *The Game.* With more advance classes, it may be possible to approach the full game, however it would be advisable to restrict the number of forwards. Flankers can dominate games to a considerable extent with inexperienced players.

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CHAPTER 24

# MINI FIELD HOCKEY

JENNY JOHN

We are in the days of the Mini Game, the route for youngsters to learn more easily and have fun, and Mini Field Hockey is no exception. Well, maybe a little different from basketball and soccer because for many, field hockey is either unknown or is perceived as being too technical with so many rules and whistles, too dangerous and too difficult to play or teach.

Mini Field Hockey is a fun and simple way to teach and learn field hockey and it is geared for co-ed participation. To gain popularity, we must involve elementary school and beginners of any age by relating field hockey to other games. The skill of dribbling forward in soccer, basketball and floor hockey, as in field hockey, requires the ball to be out in front of the feet in order to (a) control the ball, (b) see the ball, and (c) look ahead to see other players.

*Equipment*

Larger balls, such as volleyballs and soccerballs, are used for easier control and quicker learning. If a school does not possess regulation sticks, floor hockey sticks can be modified by the use of a strip of masking tape of the left side of the blade.

*Rules*

There are only five basic rules:

1. Two hands on stick for control.
2. Flat side of stick only to play the ball.
3. No kicking the ball or using feet to stop the ball.
4. No body contact.
5. No high sticking.

Safety, control and stick handling skills are the main criteria.

*Facilities*

The game can be played on any surface, the gymnasium, playground or field, which makes it ideal for any climate and any Physical Education Program.

*The Learning Process*

For Primary grades, Mini Field Hockey can be solely a motor skill activity, but for any other aged beginners, there are three learning states:

1. *Stick handling skills.* The necessary wrist rotation quickly overcomes any problem of coping with "only right-handed sticks." The basics of dribbling and stopping the ball, moving the ball to the left and right, passing and shooting can be taught in thirty minutes. Left handers find it just as easy, within that very short time.

2. *Skills circuit.* As in any other game, a series of stations can be organized for skills practice with or without competition.

3. *The game situation.* Playing areas and size of classes determine number of teams and games. The five rules are implemented with violations or fouls, giving the opposition ball position.

Goals are as large as possible to encourage scoring. Benches, cones or the end line are suitable. As teachers and students become more acquainted with the game, more rules and skills can be introduced, as outlined in the Manual, and similar to other games (e.g., use of space, marking, good footwork, passing and shooting).

*Summary*

Field Hockey is like soccer: the qualities of a top class player are skill, speed, fitness and desire. Mini Field Hockey has been accepted across Canada as the answer to promotion at the grass roots level. Try it, it's fun!

CHAPTER 25

# A BIOMECHANICAL ANALYSIS OF THE HIGH JUMP OF AN AMPUTEE

MARION J. L. ALEXANDER

The high jump is one of the most exciting and colourful events on the entire track and field program. There have been a large number of scientific papers written to analyze this event, as it exemplifies the application of many mechanical principles to a single athletic event. In the past ten years, two major styles of high jump have evolved, and either one of these two styles is used by all the top jumpers in the world today. These styles are (a) the Fosbury Flop, and (b) the straddle, and the technique of each of these is quite different in all aspects of the jump.

The purpose of the present paper is to examine the high jump of a performer which is quite different from either of the two commonly used styles. This performer is Arnie Boldt, who is an amputee, and presently holds the world's record for the disabled high jump. He has developed a unique style, which is different from either of the other two styles, but which has many features which make it a very mechanically efficient technique. It is possible that some of these features could be incorporated into the high jump style of conventional jumpers, and lead to improved performances by these jumpers.

*Statement of the Problem*

The problem investigated in the present paper is to examine the relative efficiency of the high jump technique of an amputee jumper, as compared to the high jump styles currently used by other jumpers.

*Limitations*

The study was limited to the analysis of one series of high jumps by one amputee jumper. The style utilized by this athlete is unique, and may be utilized effectively by other athletes with a similar disability.

The comparisons between the present style of high jump used by an amputee and the straddle and flop styles of high jump were carried out by a means of a review of related literature.

*Method*

The subject chosen for this study was the current world record holder in the disabled high jump. This record was set at the International Games for the Handicapped in Rome in Spring 1981, at a height of 2.04 metres. The subject, Arnie Boldt, broke his own former world record at these games.

The subject was filmed in a non-competitive situation, at a special filming session in the gymnasium at the University of Manitoba in November 1979. At the time of the filming, the subject had a personal best of 2.08 metres in practice, but had managed only 2.01 metres in a competitive situation to that date. Prior to the filming, the subject was weighed and his height was measured to the nearest .5 cm. In addition, the following limb measurements were taken: upper arm, lower arm, hand length, thigh, lower leg, and foot length. The subject also completed three trials of the jump and reach test (Sargent Jump), and several measures of leg extension strength were taken. As well, the position of his centre of gravity was determined using the reaction-board method, for purposes of comparison with the centre of gravity of normal subjects. The joint centres were marked using circular tape markers, which could be used to assist in the digitizing of the film.

A total of eight trials were selected for analysis (excluding the missed jumps from the rear and front views). A total of eighteen segmental end points were digitized for each frame of film analyzed. These points were digitized by use of a Hewlett Packard 9874A Digitizer connected to a Hewlett Packard 9835 programmable calculator. Each segmental endpoint was smoothed using a cubic spline smoothing technique, and the location of the centre of gravity (centre of mass) of the entire body was calculated from these end points. For each of the jumps, every second frame was analyzed, from the first frame visible in the field of view, until the completion of the jump. This resulted in a time interval of .02 seconds between frames analyzed. The obtained X and Y co-ordinate values of the centre of mass were used to calculate the horizontal, vertical, and resultant velocities throughout the last few strides of the run-up, the takeoff and bar clearance. The angle of takeoff was also calculated for each jump filmed in the sagittal plane by dividing the vertical velocity by the horizontal velocity, and finding the arctan of this ratio. Other kinetic

parameters calculated included: stride lengths, takeoff time, support and non-support times and C.G. heights during takeoff.

*Results and Discussion*

The descriptive data of the amputee high jumper are reported in Table 1. His age at the time of the filming was 22 years, his standing height was 185.4 cm barefoot, and 187.9 in his jumping shoe; and his weight was 61.5 kg. The position of his centre of gravity in anatomical position was estimated using the reaction board method, to be 119.66 cm from the feet, or 63.66 percent of standing height. This was considerably higher than that of the normal male, whose centre of gravity is normally estimated to be 56 percent of standing height in anatomical position.

The vertical jump score of 70 cm, and the estimated leg strength of over 1400 N-m of torque were both extremely high scores, and were past the 100th percentile for normal males of this age. The approach run of the amputee jumper consisted of six hops, from a position at an angle of 90 degrees to the bar. The jumper maintained a relatively straight path up to the bar during the approach, and his horizontal velocity averaged 4.5 metres per second during the last three hops prior to takeoff. His horizontal velocity reached a peak of 5.33 metres per second during the flight phase of the last hop prior to takeoff, which is somewhat less than the velocity of other top-class high jumpers (avg. = 7.5 metres per second). Although the present jumper is able to maintain considerable horizontal velocity with his one-legged gait, it is clear that his jumping performance may suffer due to his inability to generate the same approach velocities as other world-class jumpers. The length of the last three hops of the approach increase progressively, with the third last hop averaging 1.25 metres, the second last 1.35 metres, and the last hop a much longer 1.80 metres. This aspect of the approach is not in agreement with the majority of other top jumpers analyzed, most of whom had a longer second last step. Only a small number of top jumpers use the technique in which the last stride is longest. If this stride is too long it necessitates a deeper bend in the takeoff knee at touchdown, so force is wasted in moving down onto the takeoff leg prior to the upward movement.

The takeoff time of the amputee jumper was approximately .18 seconds which was close to the optimal time reported by Hay (1973). This time of takeoff is intermediate between the times reported for



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most flop jumpers (.13-.17 sec.) and the times reported for most straddlers (.17-.24 sec.), but may be somewhat faster than the average (Hay, 1978). This shortened takeoff time has been found to be an advantage, since as the time of takeoff decreases, the vertical impulse increases. This is because an athlete can exert greater muscle forces when the time of the contraction is less, up to a certain limit. The faster takeoff time of the present subject is an advantage in terms of maximizing vertical impulse at takeoff. This impulse is also related to leg strength, so that the exceptionally high extensor muscle strength of this athlete allows him to utilize this shorter time of takeoff.

The limb actions at takeoff consisted of a forceful double arm swing, with the elbows flexed to approximately 90 degrees throughout the swing. It has been suggested that the arm swing may produce up to seven percent of the vertical velocity of the C of G at takeoff, and that the lead leg swing may provide an additional 25 percent of the upward velocity (Dyatchkov, 1968). The amputee jumper has the disadvantage of this loss of momentum from the free leg swing, and the arm swing may not be producing maximal upward forces due to the elbow flexion.

The position of the athlete at takeoff is illustrated in Figure 1, indicating the fully extended body and takeoff leg, and the arms extended well overhead. It appears that the athlete has very good timing of the arm swing, as the arm movement has ceased prior to the instant of takeoff to provide for optimal force of the leg extension (Ariel, 1977).

The angle of takeoff is one of the most important considerations in analysis of the high jump. The greater the value of this angle, the greater the component of vertical velocity relative to horizontal, and the higher the potential height attained. Typical values of takeoff angle are reported to be 40°-52° (Dapena, 1980), which are considerably lower than those reported for the present jumper. Excluding jump #5, which was a missed jump, the average value of takeoff angle was 56°. The present jumper has an advantage in attaining a higher angle of takeoff than other conventional high jumpers, but perhaps not as high as the ideal.

The efficiency of bar clearance is evaluated by the ability of the jumper to keep his C of G close to the bar, or below the bar during clearance. This ability is a function of the position of the athlete over the bar. If the athlete can assume a position with his body parts distributed on either side of the bar, as in a pike position, he will move his C of G closer to the bar. The athlete in the present study is able to attain a fairly efficient clearance position, as he assumes a modified pike over the bar. The athlete's bar clearance technique is illustrated

in Figure 2, and it is clear that it is possible for this jumper to have his C of G pass below the level of the bar if the timing of the pike is optimal.

One of the unique features of the jumper in this analysis is the arm movement he executes while clearing the bar (Figure 3). The arms are fully extended overhead at takeoff (with a small amount of elbow flexion) and from this position, the arms move down and backwards. The sequence of arm movements is: Shoulder flexion to almost 180 degrees at takeoff, followed by adduction while crossing the bar. The reasons for these unique arm movements are unclear, although some suggestions that can be considered are: (a) the adduction of the arms decreases the moment of inertia around the frontal axis, and speeds up the rotation of the jumper around the bar during bar clearance, (b) the adduction increases the moment of inertia around the longitudinal axis, so the reaction to the flexion and lateral rotation of the leg during clearance is minimized.

*Summary*

A detailed analysis of the high jump technique of an amputee was undertaken to compare his technique to that of other high jumpers. The jumper studied was seen to have some advantage in H1—the height of the C.G. above the ground at takeoff, due to the loss of his right leg. His C.G. was found to be several centimetres higher in relation to his standing height than in other jumpers. The jumper also had some potential advantage in H3—the position of the C.G. in relation to the bar during clearance. The semi-piked position assumed by the present jumper would allow the C.G. to pass very close to the bar during clearance, and may even allow C.G. to pass below the bar. The amputee jumper did have a disadvantage in H2—the height of the C.G. was raised after takeoff. The H2 height was affected by two variables which were decreased in this jumping style. Firstly, his approach speed was slower due to his one-legged gait, so there was less transfer of horizontal to vertical momentum at takeoff. Secondly, he was lacking the upward force generated by the swing of the lead leg at takeoff, which may contribute up to 25 percent of H2.

In summary, the amputee high jumper examined in the present study has developed a very efficient style despite his handicap. However, this athlete is limited in the forces he can exert at takeoff by the loss of one leg. Although he is a highly skilled athlete, he is limited in his ability to attain the same heights as other world class jumpers. His current world record for the disabled is 2.04 m, and the current world

record in the high jump is 2.34 m. It is unlikely that this jumper could increase his jump height by some 30 cm, or almost 12 inches! Although he may not be world class in relation to normal jumpers, his achievement despite the loss of his right leg is outstanding.

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## NOTE

Consult the author for details of tables and figures.

CHAPTER 26

# INSTRUCTIONAL PROGRAM EFFECTS ON THE SOCIAL BEHAVIOUR OF MODERATELY MENTALLY RETARDED CHILDREN IN PLAY

DONNA WASSON and JANE WATKINSON

Acceptance into play groups, the ability to share play things and participation in co-operative activities requires the appropriate application of social skills. There is little controversy over the importance of social interaction for normal development and successful adjustment into play settings. Mentally retarded children have been found to display an excessive amount of isolate play behaviour, however. During a period when normal children are engaged in interactive exchanges and co-operative play, mentally retarded children play predominately alone. Mentally retarded children have been found to spend approximately eight percent of their free play time engaged in social interaction (Capobianco and Cole, 1960; Wasson and Watkinson, 1979). This compares with non-mentally retarded children who spend approximately 35 percent of their play time in social activities (Parten, 1932; Rubin, 1976; Rubin, Maioni, and Hornung, 1976; Rubin, Watson, and Jambor, 1978).

Contingency reinforcement programs have successfully increased the social interaction of withdrawn preschool children (Buell, Stoddard, Harris, and Baer, 1968; Hart, Reynolds, Baer, Brawley, and Harris, 1968; Kirby and Toler, 1970). More active forms of behaviour shaping may have to be implemented, however, with mentally retarded youngsters that do not have pre-existing social behaviours to stengthen. In one such program, Peterson, Austin, and Lang (1979) prompted and reinforced social behaviours that would normally occur while working with educational materials in a group setting. Strain, Shores, and Kerr (1976) taught skills that were social in nature, although undefined in terms of specific behaviours, through physical and verbal prompting. Specific social play behaviours were physically prompted and reinforced in a study by Whitman, Mercurio, and Caponigri (1970). Two severely mentally retarded children were

taught to roll a ball back and forth and pass a block. These tasks were also used by Guralnick and Kravik (1978), and Morris and Dolker (1974) in their studies. The social activities identified for instruction in play programs for mentally retarded children very often do not require the use of active play skills.

The purpose of the study was to determine if an individualized instruction program could be effectively used to teach social play behaviours to young moderately mentally retarded children. In addition, the generalized effect of the instruction program on the social play behaviour of the children during free play was assessed.

*Methods*

*Subjects.* The subjects were 4 moderately mentally retarded children who were attending the PREP Program which is operated by the Department of Physical Education at the University of Alberta. The PREP Program works towards the development of curriculum materials and instructional methods to teach gross motor play skills to mentally retarded children. There were 3 boys and 1 girl involved in the study that ranged in age from 6 years 6 months to 7 years 8 months with a mean age of 7 years 2 months.

*Setting.* The study was conducted in the PREP Program playroom. The playroom is a large well-ventilated area that contains numerous pieces of play equipment including a small trampoline, various pieces of climbing apparatus, bars, slides, scooters and tricycles, and smaller manipulative equipment such as balls and bats, hoops, ropes, bean bags, and hockey sticks.

*Procedure.* The children participated in the program 2 mornings per week for 15 weeks. Each day the children received individualized instruction for the first 30 minutes of the program and would be left to play freely for the last 30 minutes. The experimenter and 2 other coders observed the children's social play during the free play period.

An observation instrument consisting of 5 major categories with their respective subcategories (Figure 1) was used to collect interval time sampled information on the children's free play. Each category reflects an increasing demand on the participant to take an active role in the interactive exchange. Definition of the categories and subcategories can be obtained from the authors.

1. Compliance With Association
    - 1.1 maintains activity
    - 1.2 complies with physical contact
    - 1.3 complies with assisting
2. Association
    - 2.1 physical contact
    - 2.2 assisting
3. Co-operation
    - 3.1 taking turns
    - 3.2 sharing
    - 3.3 leading/following
4. Co-ordinating
5. Negative Behaviour

FIGURE 1

*Social Interaction Categories and Subcategories*

*Experimental Design.* The study employed a multiple probe design (Horner and Baer, 1978), replicated across subjects. In addition, a simple ABA design was incorporated to assess the efficacy of the instructional program in increasing the children's social behaviour in free play. The procedure in each condition was as follows:

Baseline Phase. The observers performed free play observations for a period of two weeks. The children's level of social interaction as defined by the social interaction categories and subcategories was assessed and three social tasks for each subject were selected for instruction.

Intervention Phase. A performance probe was performed on all 3 tasks for each subject on the first day with instruction begnning on the first task. On the seventh day all 3 tasks were reassessed with instruction beginning on the second task while maintaining instruction on the first. This procedure was repeated for the third task. Instruction was carried out by three teachers. The teacher brought two children together for instruction but focussed primarily on the performance of one child. As the children's level of performance

increased, the teacher's degree of prompting decreased (Figure 2). Complete definitions of the response prompting continuum can be obtained from the authors.

| | |
|---|---|
| PHYSICAL PROMPT | Complete Manipulation<br>Manipulative Prompting<br>Minimal Guidance |
| VISUAL PROMPT | Complete Behaviour Demonstration<br>Partial Behaviour Demonstration<br>Gestural Prompting |
| VERBAL PROMPT | Behaviour Cue<br>Behaviour Mand<br>Action Cue |
| NO PROMPT | Environmental Goal<br>Imitative Initiation |
| CONTINGENT ATTENTION | Continuous<br>Intermittent |
| INITIATION IN FREE PLAY | |

FIGURE 2

*Response Prompting Continuum*

Baseline Phase. The initial baseline conditions were reinstated for an additional two weeks.

*Results*

*Interobserver Agreement.* Prior to the initiation of the study a criterion of 70 percent was reached between the two observers and the experimenter. Interobserver agreement scores were calculated on a random schedule for 20 percent of the observations using the scored interval technique (Hawkins and Dotson, 1973). The range of scores across categories was 75 to 100 percent with a mean of 85 percent.

*Subjects Progress.* Daily progress for each subject was plotted according to their highest performance level for the day (Figures 3, 4, 5, and 6). The children's performance as reflected by the assessment probes

did not increase until the introduction of the instruction program with the exception of one task for Subject 4 (Figure 6). Although within subject variability was evident, all of the subjects displays positive progress with instruction.

In eleven of the twelve social tasks taught there was a measurable change in the level of performance form the first assessment probe to the last days of instruction. Subject 2 (Figure 4) had dramatic changes in the level of performance, moving from requiring a great deal of physical prompting to instances of dependent performance.

The free play behaviour of the subjects was expressed as the percentage of free play time spent in social play activities across time (Figures 7 and 8) and fitted with linear trend lines using the method of least squares (Parsonson and Baer, 1978). The great variability of performance and overlap of scores between baseline and treatment phases did not permit conclusive statements to be made about the subject's social behaviour in free play.

*Discussion*

All of the social tasks taught but one (Subject 4, Figure 5) were performed with a greater degree of independence at the termination of instruction that at its initiation. The skill that did not show an increase had received instruction for only 5 days. This progress would suggest that the behaviours identified for instruction were appropriate social play activities. Similarily, the change in level in the children's performance over 10 weeks of instruction suggests that the teaching model was efficient in terms of teacher efforts and time. The instructional model required that one teacher work with 2 children, one of which was the focus of instruction while the other acted as a co-operating peer.

With the systematic application of the response prompting continuum the children's performance on prescribed tasks was frequently brought from total dependence on the teacher to being performed with a much greater degree of self initiation on the part of the child. Even though the children in many cases could perform the tasks when asked to by the teacher, an increase in social behaviour in free play did not occur, however. A major contributing factor to this lack of generalization may have been the amount of post response feedback and reinforcement offered along with the response prompting continuum. The sudden loss of abundant teacher reinforcement and feedback between the Verbal Prompt level of performance and the

No Prompt and Contingent Attention phases to independent performance may not have permitted the children to realize the benefits of independent performance outside of teacher reinforcement given at each level of the response prompting continuum. This procedure may be more effective in introducing the child to the naturally occurring consequences of the task including peer delivered consequences that will maintain the behaviour in free play.

NOTE

Contact the authors for reference details and figures 3-8.

CHAPTER 27

# JUGGLING: AN ACTIVITY FOR THE 80'S

DAVE FINNIGAN

Physical educators who attended the CAHPER '81 convention in Victoria saw the excitement generated by an ancient art form that is quickly becoming a modern form of recreation. Juggling had its heyday in Europe and North America in the 1920's and 30's. As the electronic media took over from vaudeville, the jugglers' art began to fade. Its recent revival can be attributed in large measure to the realization by physical educators and recreation specialists that juggling is an excellent way to learn motor skills, a tremendous confidence-builder, and a lot of fun.

*Why Juggling?*

Juggling appears to be a difficult physical skill. Most people think that it is beyond their capability. However, by breaking the skill down into component parts, and by using proven teaching methods, even the most ungainly of students can see the pattern and can reproduce it. This process is basic to learning many other motor skills, and can improve the student's willingness and ability to experiment. They eye-hand co-ordination gained through juggling is transferrable to many other activities. It improves accuracy in throwing, and confidence in catching. Juggling is a sport at which girls and boys can be equally adept; and each individual can advance at his or her own speed. It requires little equipment, is transportable, can be conducted indoors or out, and is safe. Juggling builds confidence, concentration, persistence and self-esteem, and group or partner juggling can help develop teamwork and "stage presence." Finally, and most importantly, juggling is FUN!

STEP ONE: HOLDING THE SCARF
HOLD THE SCARF BY THE CENTER IN THE "JELLYFISH" POSITION!
STEP TWO: THROWING ONE SCARF
HOLD THE SCARF AS SHOWN ABOVE IN EITHER HAND!
..NOW LIFT YOUR ARM AS HIGH AS YOU CAN IN AN "X" MOTION ACROSS YOUR BODY..
AND CATCH WITH THE OPPOSITE HAND BY CLAWING STRAIGHT DOWN!
NOW DO THIS FROM THE OTHER SIDE, TOO!
STEP THREE: THROWING TWO SCARVES
HOLD A SCARF IN EACH HAND IN THE "JELLYFISH" POSITION!
THROW THE ONE IN YOUR RIGHT HAND..
AFTER YOU HAVE RELEASED IT, THROW THE ONE IN YOUR LEFT HAND USING THE EXACT SAME MOTION! THE SCARVES WILL MAKE AN "X" ACROSS YOUR CHEST!
..AND REMEMBER TO CATCH STRAIGHT DOWN!

*Juggling and Special Populations*

Because the learning system is so basic, even those students with mild to moderate physical and neurological disabilities can be incorporated into juggling programs. Stepwise teaching methods are designed to give some positive support to every student, no matter what the level of accomplishment may be.

*How to Juggle*

The easiest way to learn to juggle is with specially designed nylon scarves which slow down the juggling pattern considerably. Once this pattern is learned, heavier objects, such as cubical beanbags can be introduced. Juggling is an appropriate activity for youngsters eight years old and up.

The instructions which follow are reproduced here with the kind permission of JUGGLE BUG, INC., the major manufacturer of juggling equipment in North America. Juggle Bug is represented in Canada by:

Jack Mellor
8457 Granville
Vancouver, B.C.
V6P 4Z9

and

Phil Matlin
4781 Van Horne Avenue
Suite 206
Montreal, Quebec
H3W 1J1

At the Victoria meeting, about 350 participants learned to juggle with Juggle Bug scarves. The average time spent in capturing this skill was between five and ten minutes. Those who stayed for the full three-hour session presented by Professor Confidence and The Juggling Institute, were able to move from nylon scarves to beanbags, rings and clubs. The skills are not only straightforward to learn but present a paradigm for learning other motor sequences.

*Summary and Challenge*

For years juggling has lain dormant. Physical educators have been reluctant to introduce juggling skills because the simplicity of the activity and its acceptability were unknown. Now that the teaching methodology has been simplified and the activity is seen as appropriate, it should be possible to introduce juggling as a methodology for

motor skill development at virtually every level within the school system. Those who went through the juggling exercise in Victoria will be introducing juggling in their own schools over the course of the next year. In addition, many physical educators who read this article may wish to incorporate juggling into their curriculum.

As the year progresses, pleases keep a record of your experience with juggling and any special activities which you have undertaken such as: student performances, demonstration teams, juggling games which you have invented or any special effect of this program on your students' physical or academic performance. If you have experiences that you would like to share with us or want to schedule an inservice training program, please write to:

Dave Finnigan, Director
The Juggling Institute
23004 107th Place West
Edmonds, WA 98020

# ABSTRACTS

## FELDENKRAIS EXERCISE PROGRAM

STANLEY R. BROWN

Feldenkrais "Awareness Through Movement" lessons are suitable for adults of any age but are invaluable for improving the function of older people. Anyone who can follow verbal directions can participate, even if physically impaired. The lessons usually last 45 minues. The movements are light, easy and safe. If people are unable to make the movements as directed they can imagine doing them and may obtain results similar to people who can move. Feldenkrais has developed hundreds of lessons, each different in some way from the others. The idea of being different each time is to help ensure that participant will not anticipate the direction the lesson is taking and unconsciously subvert the learning process which is the main purpose of this work. In a typical Feldenkrais "Awareness Through Movement" lesson, participants lie or sit on the floor to avoid or reduce the effect of gravity on the body, thus improving conditions for learning. As the lesson progresses, movements become more complex and, eventually, changes in mobility occur without forcing and without the stretching employed in conventional exercise. Participants are made aware of the amount of effort they are using and are shown how to reduce this and to eliminate strain. New patterns of movement are developed to replace habitual stereotyped patterns. The individual may then progress in time to a higher level of functioning and, in the process, obtain relief from the various aches and pains. The main idea is to change old, familiar, and unsatisfactory ways of brain function to new improved ones. The intention is to renew growth, which in most people ceased in early adolescence because they were satisfied with a mediocre level of competence which allowed them to "get by" equally as well as their friends and relatives. There are many principles of kinesiology and learning applied in the "Awareness Through Movement" lessons and in the individual manipulative work which Feldenkrais developed first and calls "Functional Integration." Principles of Feldenkrais work are described in his books; the articles describe principles and the reactions of individuals to this work.

Lessons for personal or group use are available in the book, "Awareness Through Movement" and on tapes from the suppliers listed.

## SNOWBALL

DOUGLAS M. CALDER

Snowball is the only team sport designed for snowfields. As such it offers Canadians an original athletic experience and recreational program which develops skills and attitudes on an unparalleled scale at an absolute minimum cost. The game has features relating to many other activities so those playing other sports can immediately apply their talents to Snowball. Certain techniques, as well as the environment itself, allow the relatively non-athletic, and socially shy and the physically light persons to participate confidently and safely with the more practiced athletes. Snowball is fun for the whole family as well as being a demanding test for professionals.

## INTRAMURALS IN CANADA

JOHN P. CALDER

The Canadian Intramural Recreation Association is a national organization of educators who aim to develop and encourage professional growth in the field of intramurals and recreation. Within five years the association has grown to a point where it effectively represents Intramuralists across Canada. Expanding regional development combined with increased levels of funding from corporate and government sources ensures the continued expansion of the association and increased service and benefits to members.

## THE INFLUENCE OF THE BRITISH AND CANADIAN MILITARY FORCES IN THE RISE AND FALL OF RUGBY IN HALIFAX, NOVA SCOTIA

R. M. DAVIES

The game of rugby has been in existence in Halifax, Nova Scotia, for over a century. A rudimentary form a rugby was first played in the late 1860's and since that time the game progressed to become a major sport in the province. The prominence of rugby was maintained over a long period before its eventual decline and demise in the 1940's. The game is unique in the sport history of Halifax as it fell from a position of being a major sport to one of virtual extinction.

## FITNESS TO MUSIC

PAT DEAN and LARA LAUZON

Fitness to music classes are designed to provide a general conditioning program for participants of all ages. The basic fitness components of suppleness, stamina, strength, co-ordination, and balance, are emphasized throughout each session. Use of music adds fun and enjoyment to the class and often acts as a motivational tool to encourage continued participation.

## SEXUAL ATTITUDES TOWARDS THE MALE DANCER

JOHN DEWAR

Throughout history the attitude of the people has changed with respect to the male in dance. The concepts of effeminate behaviour and homosexuality, as they relate to dance, are or should be passé. There are a number of other misconceptions relating to men dancing. The preferred attitude towards dance, would be that of the body as a trained instrument capable of performing whatever demands the dancer places upon it.

## TASK ANALYSIS OF THE CANADA FITNESS AWARD: A NATIONAL FITNESS TEST FOR THE TRAINABLE MENTALLY HANDICAPPED

HILARY FINDLAY

In 1979, a project to adapt the Canada Fitness Award (CFA) for use by the trainable mentally handicapped (TMH) population. Phase I of the project (determination of feasibility) indicated that not only was such a project feasible, but also highly desirable. The Task Force making the adaptations, chose to pursue a strategy for Phase II, developing a fitness award program that paralled as closely as possible the CFA and one that also contained a program component dealing with the development of both fitness and some basic motor skills. This particular phase included three steps. First revisions were made to the CFA test items in terms of equipment, procedures, instructions and scoring where necessary. Secondly a series of subtasks for each test item were identified to aid in the acquisition of each test skill. Thirdly, teaching suggestions and training ideas were drafted for each item. Phase III of the project involves sampling the test across Canada. This, tentatively, will be complete in November 1981.

## A UNIQUELY CANADIAN OUTDOOR EDUCATION PROGRAM

ROBERT J. HENDERSON

Much of Canada's history is linked to travel and exploration in backwood country. The bush remains therefore a modest reservoir of our cultural expression and travel attends to a rich expression of our Canadian heritage. This paper describes a course offered by the University of Alberta in which a group of students seek out this heritage through both exploration into library materials and direct experience with that heritage in winter travel. The values of this enlightened experiential mode of education becomes a clear reality in such a program.

## MOVING: IDEAS FOR PRE-SCHOOL CHILDREN

KALLY KENNEDY

The recent explosion in Canada in the number of nursery and day-care centres presents the problem of addressing the urgent need for information on the importance of physical activity for pre-school children. Today's emphasis on educating the "whole" child must include provision for motor skill development. A recent survey of current practices and needs expressed by teachers of pre-school children clearly identifies the need for assistance in the area of physical activity and its contingent requirments. We as physical educators must give parents and teachers of young children specific reasons why physical activity is a basic tool of learning. We need to help teachers with curricular content for daily movement experiences, provide guidelines for selecting effective, affordable equipment, and offer suggestions for appropriate teaching methods for use with 3- to 5-year-old children. In an effort to give such assistance, a mini-conference entitled "Moving: Ideas for Pre-School Children" was recently conducted at the University of Manitoba.

## CHANGE AGENT RESEARCH FOR THE CANADIAN NATIONAL BASEBALL TEAM

W. MARINO, D. MORIARTY, J. POWELL, P. TAYLOR, G. REEDS and J. ZAREBSKI

This study developed a multidisciplinary approach to research and utilized that approach to analyze the characteristics and potentials of Baseball Canada. In collaboration with the National Technical Director and team coaches, a research team set up a series of tests designed to provide information to the national team coaches and players. The coaches and 25 players were assessed during a two-week training camp held in Windsor, Ontario, Canada prior to the 1979 Pan American Games and again in 1980 prior to the World Games in Japan. The project involved physiological, biomechanical, administrative and social-psychological investigations.

## THE POLITICAL USE OF SPORT IN CUBA SINCE THE SOCIALIST REVOLUTION

TREVOR SLACK

Cuba's position in the international sports arena has improved dramatically since the 1959 socialist revolution. This improvement has lead to the Cuban government's use of sport as a means of exemplifying the successes of the revolution. Attempts have also been made to use success in sport as a means of reinforcing, at home and abroad, the socialist ideologies of the Marxist-Leninist regime. As a result of the political manipulation of sport there have been several controversial incidents involving Cuba.

## SPORT ON CANADA'S PACIFIC FRONTIER

DEREK A. SWAIN

In the spring of 1843, there could have been little expectation that Fort Victoria, a newly established Hudson's Bay Company fur-trading post, would soon become a bustling centre of global commerce. The establishment of a colony of British landholders on Vancouver Island introduced the social and ethical standards of the old world to the Pacific Northwest but, the discovery of gold along the Fraser River caused a rapid transition in the region's economy and society. Prospectors and miners, adventurers and entrepreneurs from around the world were lured by the promise of prosperity and that sudden wealth generated an "inverted social pyramid" in which traditional lines of class distinction could not operate. During the tumultuous years of early settlement, numerous games, pastimes, competitions, and festivities provided the frontier community with opportunities to acquaint itself with new members and customs. The growth of these activities, often fostered by the Royal Navy, reflects the progress of society on the Pacific frontier and provides a sometimes amusing insight into the attitudes and interests of British Columbian pioneers.

## DEVELOPMENT TRAINING FOR, AND PHYSIOLOGICAL RESPONSES OF, COMPETITIVE DISABLED ATHLETES

GRAHAM R. WARD

The ability of athletes to perform maximally during sporting events requiring maximal aerobic and anaerobic energy is determined by many factors. In the present studies male wheelchair and blind subjects and athletes in these groups consented to do either wheelchair erogmetry or track running and cycling exercise for the purpose of determining selected muscle substrate utilization and aerobic capacity. The biceps brachii muscle ATP, CP, lactate, glycogen, pyruvate, and the enzyme pyruvate dehydrogenase from wheelchair nonconditioned and conditioned subjects working over 400 metres in race conditions showed similar results to able-bodied upper arm exercise, except the conditioned athletes were able to work harder and thus showed the largest changes. Other adult blind and wheelchair subjects and children (9-11 years) in wheelchairs trained for 4 months in running and wheeling and results of cardiac output, and ventilation compared to oxygen uptake and Heart Rate effects was recorded. The aerobic and anaerobic training techniques employed by Canada's World Class competitive disabled athletes were discussed.

## COINCIDENT-ANTICIPATORY TIMING OF FIELD HOCKEY PLAYERS

DIANNE WHITTINGHAM

This study was designed to investigate the predictive ability of 28 female field hockey players at three skill levels (National, University, High School) and a Control group of 10 athletic university students. Subjects were to anticipate the arrival of a stimulus light at a target point (stationary field hockey ball) at the end of a running track and contact a stationary field hockey ball at the same instant. The light velocity was randomly presented at 15 m.p.h. (24.1 kph), 20 m.p.h. (32.2 khp), and 30 m.p.h. (48.3 khp) to simulate the arrival of slow

medium and fast-paced balls. A Bassin Anticipation Timer Control System (Lafayette Industries) was employed to vary the light presentation speed and provide qualitative (early, late) and quantitative (msec) results of each trial. The AE and CE scores were analyzed in an ANPVA 4 x 3 x 10 Randomized Groups Design. The results suggested a significant difference in anticipatory ability for each skill level. A significant difference was found in AE ($p < .01$) and CE ($p < .05$) for each skill level, as well as an overall significant Speed by Groups interaction (AE and CE $p < .01$).